South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT**

PROJECT TITLE: **CHEVRON PRODUCTS COMPANY**
EL SEGUNDO REFINERY HEAVY CRUDE PROJECT

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and will prepare a Draft Environmental Impact Report (EIR) for the project identified above. The purpose of this Notice of Preparation (NOP) is to solicit comments on the environmental analysis to be contained in the EIR.

In conjunction with the development of the proposed project, it is necessary to address the potential adverse effects of the proposed project on the environment. The SCAQMD is preparing the appropriate environmental analysis consistent with CEQA. The Notice of Preparation (NOP) serves two purposes: to solicit information on the scope of the environmental analysis for the proposed project and notify the public that the SCAQMD will prepare a Draft EIR to further assess potential adverse environmental impacts that may result from implementing the proposed project. The Draft EIR will discuss all topics required by CEQA.

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

The SCAQMD will hold a scoping meeting to discuss the proposed project and review the environmental issues to be discussed in the EIR on Thursday, October 20, 2005, at the El Segundo City Council Chambers, 350 Main Street, El Segundo, CA 90245 at 6:00 p.m.

Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Mr. Michael Krause at the address shown above, sent by FAX to (909) 396-3324 or e-mailed to mkrause@aqmd.gov. Comments must be received no later than 5:00 p.m on October 28, 2005. Please include the name and phone number of the contact person for your organization.

Project Applicant: Chevron Products Company El Segundo Refinery

Date: September 29, 2005 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor
Planning, Rules, and Area Sources
(909) 396-3054

Reference: California Code of Regulations, Title 14, Sections 15082, 15103, and 15375

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive, Diamond Bar, California 91765-4182

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

Project Title:
Initial Study for the Proposed Chevron Products Company El Segundo Refinery Heavy Crude Project

Project Location:
The Chevron Products Company El Segundo Refinery is located at 324 West El Segundo Boulevard, El Segundo, California.

Description of Nature, Purpose, and Beneficiaries of Project:
Modification of the existing No. 4 Crude Unit, Coker and crude oil storage tanks to enable the refinery to process heavier crude oils with the potential for minor increases in product production volume. The proposed project may adversely affect air quality, hazards and hazardous materials, hydrology and water quality, noise, solid/hazardous waste, and transportation/traffic.

Lead Agency:
South Coast Air Quality Management District

Division:
Planning, Rule Development and Area Sources

Initial Study and all Supporting Documentation are Available at:
SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

Or by Calling:
(909) 396-2039

Or by accessing:
http://aqmd.gov/ceqa/nonaqmd.html

Scheduled Public Meeting Date:
The proposed project will have a regional and area-wide significance. Therefore, a CEQA scoping meeting is required pursuant to Public Resources Code §21083.9(a)(2) and will be held on Thursday, October 20, 2005, at the El Segundo City Council Chambers, 350 Main Street, El Segundo, CA 90245 at 6:00 p.m. for the proposed project.

The Notice of Preparation is provided through the following:

☑ Los Angeles Times (September 29, 2005)
The Daily Breeze

☑ AQMD Website

☑ AQMD Mailing List

Review Period:
September 29, 2005 through October 28, 2005

CEQA Contact Person:	**Phone Number:**	**E-Mail Address**
Michael Krause	(909) 396-2706	mkrause@aqmd.gov

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INITIAL STUDY FOR:

CHEVRON PRODUCTS COMPANY EL SEGUNDO REFINERY HEAVY CRUDE PROJECT

SCH No. TBD

September 2005

Prepared by: ENSR International

Reviewed by: Michael Krause, Air Quality Specialist
Steve Smith, Ph.D., Program Supervisor, CEQA
Frances Keeler, Senior Deputy District Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT GOVERNING BOARD

Chairman: WILLIAM A. BURKE, Ed.D.
Speaker of the Assembly Representative

Vice Chairman: S. ROY WILSON, Ed.D.
Supervisor, Fourth District
Riverside County Representative

MEMBERS:

MICHAEL D. ANTONOVICH
Supervisor, Fifth District
Los Angeles County Representative

JANE CARNEY
Senate Rules Committee Appointee

BEATRICE J.S. LAPISTO-KIRTLEY
Mayor, City of Bradbury
Cities Representative, Los Angeles County, Eastern Region

RONALD O. LOVERIDGE
Mayor, City of Riverside
Cities Representative, Riverside County

GARY OVITT
Supervisor, Fourth District
San Bernardino County Representative

JAN PERRY
Councilmember, 9th District
Cities Representative, Los Angeles County, Western Region

MIGUEL A. PULIDO
Mayor, City of Santa Ana
Cities Representative, Orange County

JAMES SILVA
Supervisor, Second District
Orange County Representative

CYNTHIA VERDUGO-PERALTA
Governor's Appointee

DENNIS YATES
Mayor, City of Chino
Cities Representative, San Bernardino County

EXECUTIVE OFFICER
BARRY WALLERSTEIN, D.Env

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 - PROJECT DESCRIPTION

Introduction

Agency Authority

Project Location

Project Description

INTRODUCTION

The Chevron Products Company (Chevron) El Segundo Refinery processes crude oil to produce motor fuels and other saleable products. The refinery processes both heavy and light crude oil. Heavy crude oils are more dense and viscous than light crude oils and generally produce smaller amounts of motor fuels per barrel than lighter crude oils. Because most new crude oil discoveries in the world are heavier than historic crude oil supplies, Chevron is proposing modifications to the refinery to maintain or slightly increase its current production levels of saleable products while processing more heavy crude oil and less light crude oil than it currently processes. Maintaining current production levels of saleable products while processing more heavy crude oil will require an annual increase of approximately five percent in the total amount of crude oil processed by the refinery. The changes required include modifications to crude oil storage tanks, the No. 4 Crude Unit and the Delayed Coker (Coker).

Crude oil imported to the refinery is stored in tanks prior to processing. Heavier crude oil requires heating to reduce its viscosity so it can be handled in the refinery. Therefore, Chevron is proposing to add insulation to one crude oil storage tank and heating systems to two crude oil storage tanks to increase the amount of heavy crude oils that can be properly stored. Chevron is also proposing to add piping and to upgrade pumps associated with crude oil storage tanks to enable them to handle the higher viscosity crude oil.

The No. 4 Crude Unit performs the initial steps in refining most of the crude oil processed by the refinery. Processing more heavy crude oil will change the relative amounts of various products produced by the No. 4 Crude Unit. In particular, the quantity of the heaviest material produced from each barrel of crude oil, which is called vacuum residuum (or residue), will increase. The No. 4 Crude Unit, where this vacuum residuum is produced, cannot handle the increase. Therefore, Chevron is proposing modifications to the No. 4 Crude Unit that will enable it to handle the increased vacuum residuum production. The design changes required to handle the increased vacuum residuum production will result in an overall increase in the crude-oil processing capacity of the No. 4 Crude Unit of approximately five percent.

The No. 2 Crude Unit also produces vacuum residuum. However, its crude-oil throughput capacity is only about one-third of the No. 4 Crude Unit's capacity. The amount of heavy crude oil that it processes will also increase, and the amount of light crude oil that it processes will decrease. However, Chevron is not proposing to modify the No. 2 Crude Unit, and the total amount of crude oil that it processes will not increase.

Vacuum residuum produced by the No. 2 and No. 4 Crude Units is processed by the Coker. Chevron is proposing modifications to the Coker to increase its throughput to accommodate the increase in vacuum residuum produced by the No. 2 and No. 4 Crude Units.

While the purpose of the proposed project is to enable the refinery to process more heavy crude oil, the actual crude oil processed in the future will vary depending on market conditions. The design changes required to process more heavy crude oil will result in an overall increase in the annual capacity of the No. 4 Crude Unit by approximately five percent. The overall increase results from improving the unit's capability to handle vacuum residuum while maintaining the current processing capability for the intermediate products.

AGENCY AUTHORITY

The California Environmental Quality Act (CEQA) applies to proposed "projects" initiated by, funded by, or requiring discretionary approvals from State or local government agencies. Case law has extended the applicability to most types of projects that have the potential to adversely affect the environment. The proposed refinery modifications constitute a "project" as defined by CEQA (California Public Resources Code §§21000 et seq.). To fulfill the purpose and intent of CEQA, the South Coast Air Quality Management District (SCAQMD) is the lead agency for this project and has prepared this Initial Study and the attached Notice of Preparation (NOP) to address the potential environmental impacts associated with the Chevron Products Company El Segundo Refinery Heavy Crude Project.

Under CEQA, the lead agency is defined as "the pubic agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (Pubic Resources Code §21067). The City of El Segundo and the SCAQMD have determined that the SCAQMD is the appropriate lead agency pursuant to CEQA (CEQA Guidelines §15051(b)), as the SCAQMD has discretionary approval authority over the air quality permits necessary for the proposed project modifications. The City of El Segundo will act as the responsible agency for permits and approvals required by the city.

PROJECT LOCATION

The location of the Chevron El Segundo Refinery within the overall southern California region is shown in Figure 1-1. The refinery is located at 324 West El Segundo Boulevard in the City of El Segundo, California, as shown in Figure 1-2. The El Segundo Refinery occupies an irregularly shaped parcel of land, between Vista Del Mar on the west, El Segundo Boulevard on the north, Sepulveda Boulevard on the east, and Rosecrans Avenue on the south. The proposed locations within the refinery for the modifications to the crude oil storage tanks, No.4 Crude Unit and to the Coker are shown in Figure 1-3. All proposed modifications would occur within the confines of the existing refinery.

PROJECT DESCRIPTION

The following discussion describes modifications proposed by Chevron to crude oil storage tanks, the No. 4 Crude Unit and the Coker at the El Segundo Refinery and also presents the construction schedule. Additionally, although Chevron is not proposing modifications to its El Segundo Marine Terminal (ESMT), importing more heavy crude oil by marine tanker through the ESMT to the refinery may change the types and number of marine tankers calling at the terminal.

Crude Oil Storage Tank Modifications

Crude oil imported to the refinery is stored in tanks prior to processing. The heavy crude oil that will be received by the refinery after completion of the proposed modifications requires heating to reduce its viscosity so that it can be transferred by piping within the refinery. Chevron is proposing the following modifications to increase the storage capacity for heavy crude oil:

- Insulate one existing crude oil storage tank (Tank T-1000);

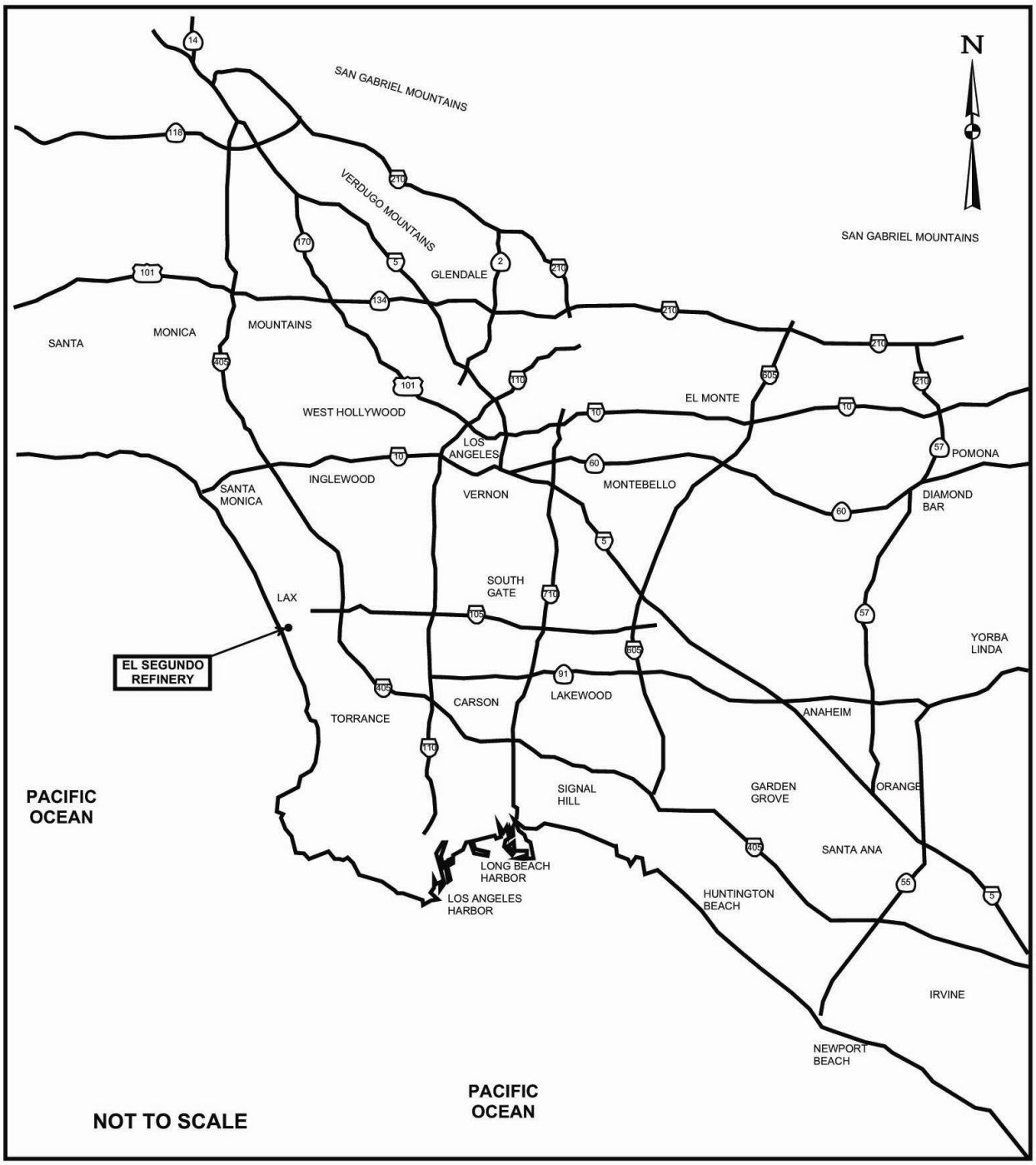

Figure 1-1 Regional Location Map

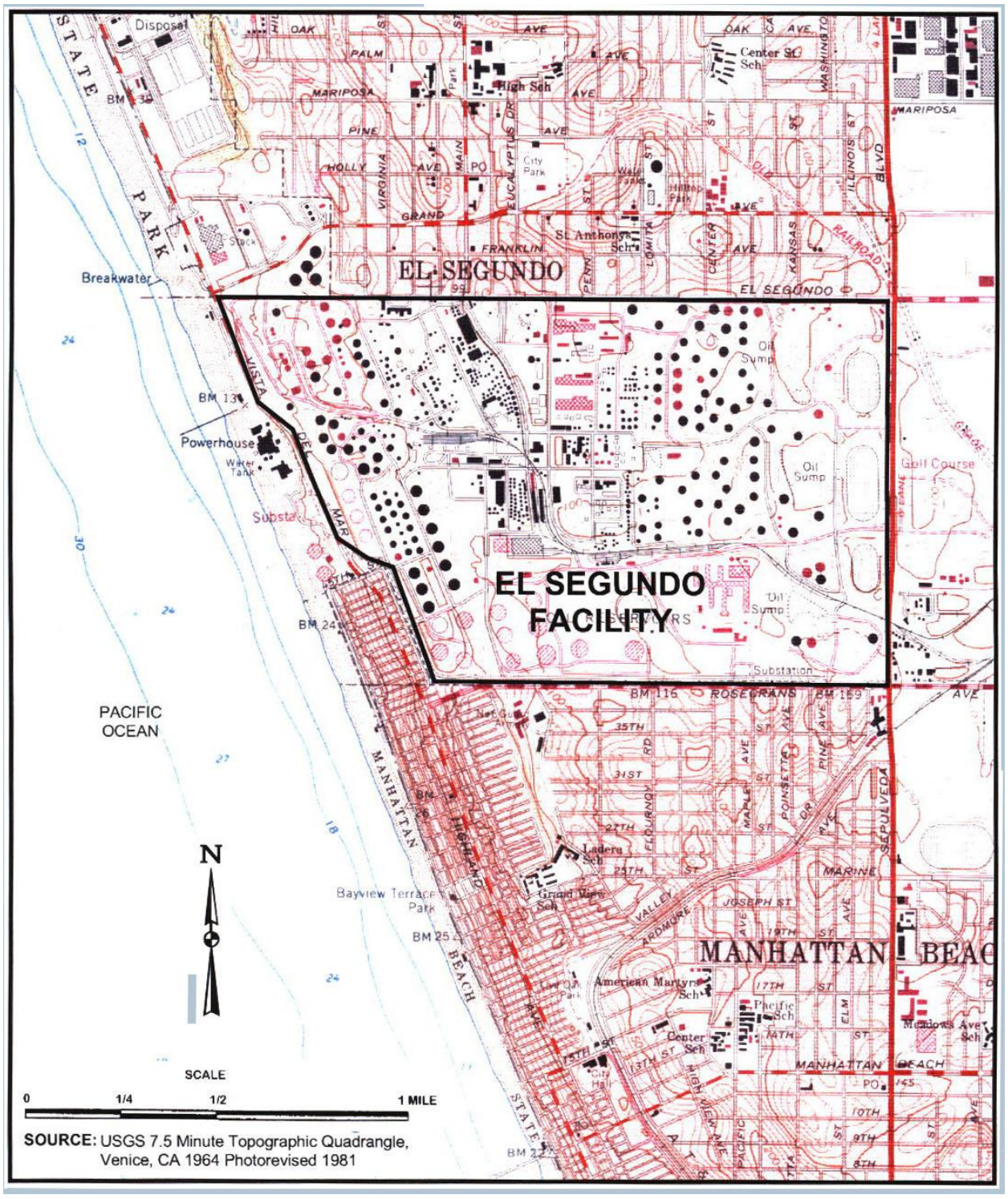

Figure 1-2 Site Location Map Chevron El Segundo Refinery

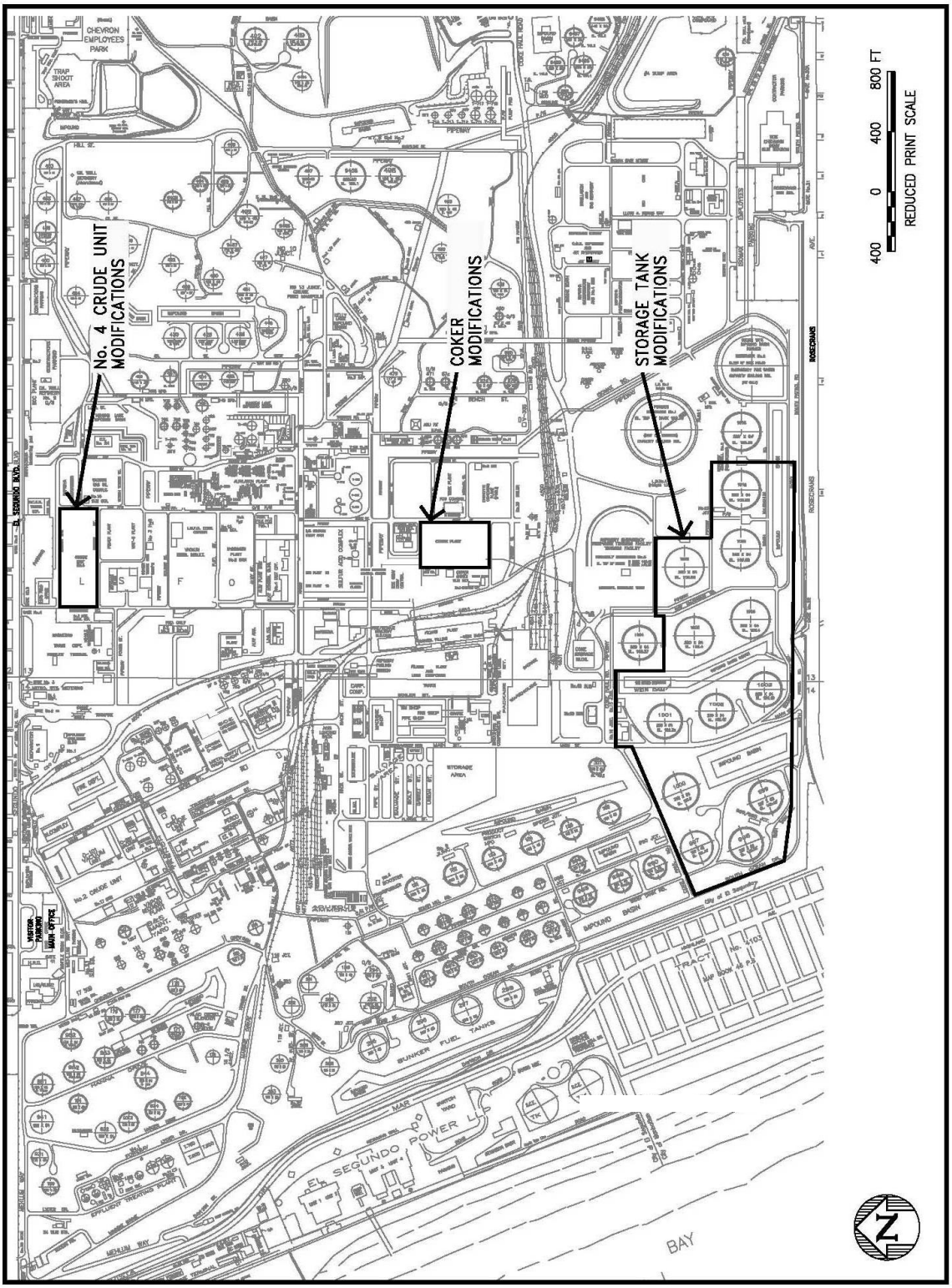

Figure 1-3 Site Plan Showing Locations of Project Components

- Add heating systems, consisting of heat exchangers, pumps and piping, to two existing crude oil storage tanks (Tanks T-1002 and T-1006). The steam required for the heating

systems would primarily be produced by the refinery's cogeneration plant, which produces both steam and electricity. No modifications to the cogeneration plant are currently proposed. The production of the additional 11,000 to 70,000 pounds per hour of steam required for the heaters is within the cogeneration plant's current permitted capacity.

- Install piping to enable existing crude oil storage tank T-1000 to change from general crude oil service to dedicated San Joaquin Valley (SJV) heavy crude oil service and to enable existing crude oil storage tank T-1006 to change from dedicated SJV crude oil service to general crude oil service. This change is being made to optimize the tank and pumping arrangement with the new heavy crude oils.
- Upgrade one pump to handle the higher viscosity crude oil.

No. 4 Crude Unit

Current Operations

The No. 4 Crude Unit performs the initial steps in refining most of the crude oil processed by the refinery. The No. 4 Crude Unit includes both an atmospheric distillation column and a vacuum distillation column. The atmospheric distillation column performs an initial separation of the crude oil at atmospheric pressure into several components, including methane, ethane, liquid petroleum gas (LPG), naptha, raw jet fuel, raw diesel fuel, gas oil and atmospheric residuum. These components are processed by other process units in the refinery.

Atmospheric residuum is composed of the heaviest hydrocarbons in crude oil, which boil at the highest temperatures and cannot be further separated at the operating pressures and temperatures in the atmospheric distillation column. For this reason, the atmospheric residuum is sent from the atmospheric distillation column to the vacuum distillation column for separation into light gas oil, heavy gas oil and vacuum residuum. The vacuum distillation column operates at a pressure that is below atmospheric pressure. The reduced pressure allows the atmospheric residuum to be distilled at lower temperatures than would be otherwise required if the distillation unit operated at atmospheric pressure.

The crude oil entering the No. 4 Crude Unit is heated to the temperatures needed for the distillation process to occur by feed heaters in the No. 4 Crude Unit and by several heat exchangers that recover heat from the vacuum residuum as it leaves the unit.

Proposed Modifications

The proposed processing of more heavy crude oil by the No. 4 Crude Unit will increase the amount of vacuum residuum produced. The vacuum residuum production rate is anticipated to increase from the current annual average rate of approximately 45 thousand barrels per operating day (MBPOD) to approximately 57 MBPOD when more heavy crude oil is processed. The rate of vacuum residuum production by the No. 4 Crude Unit is currently limited primarily by the flow rate capacity of the heat exchangers that recover heat from it as it leaves the unit. Chevron is proposing modifications to the heat exchangers to reduce pressure drop.

Because heavy crude oil contains less lighter hydrocarbons than light crude oil, the quantity of lighter products produced by the No. 4 Crude Unit per barrel of crude oil processed is less when processing heavy crude oil than when processing light crude oil. Chevron currently processes heavy crude oil but at lower volumes than contemplated for the proposed project. The proposed modifications will increase the throughput capacity of the No. 4 Crude Unit by approximately five

percent. As a result of this capacity increase, the proposed processing of more heavy crude oil by the No. 4 Crude Unit is not expected to substantially change the production rate of lighter products by the No. 4 Crude Unit from the current rates.

The proposed increase in the throughput capacity of the unit will require an increase in the heating rate of crude oil entering the unit. Chevron is proposing modifications to the heat exchangers to increase heat recovery from the vacuum residuum leaving the unit, which will provide the additional heating of the crude oil entering the unit. Thus, the firing rates of the No. 4 Crude Unit feed heaters are not anticipated to change substantially from the current rates that already occur routinely as part of Chevron's refinery operations.

Chevron is also proposing modifications to the No. 4 Crude Unit to improve distillation in the unit and to reduce the production of vacuum residuum per barrel of heavy crude oil processed.

Specific proposed modifications to the No. 4 Crude Unit include:

- Modify trays in the atmospheric distillation column to improve distillation efficiency;
- Modify packing and liquid distribution in the vacuum distillation column to improve distillation efficiency;
- Modify the vacuum system on the vacuum distillation column by replacing existing and adding new eductors, which produce the vacuum, to increase the removal of gas oil from the feed;
- Replace up to 12 existing heat exchangers with new heat exchangers to reduce pressure drop (final engineering designs may ultimately require replacement of fewer heat exchangers);
- Modify up to five existing heat exchangers to reduce pressure drop (final engineering designs may ultimately require modifications to fewer heat exchangers);
- Add up to two heat exchangers to increase the amount of heat recovery (final engineering designs may ultimately require fewer heat exchangers);
- Modify up to eight pumps to handle higher viscosity materials (final engineering designs may ultimately require modifications to fewer pumps);
- Replace internal components and electrical supply on the desalters to be able to better process heavy crude oil;
- Replace piping with larger diameter piping to reduce pressure drop; and
- Install additional automated controls for existing equipment to improve emergency response and normal operating efficiency.

Coker

Current Operations

The Coker processes the vacuum residuum produced by the crude units. It heats the vacuum residuum to a high temperature, causing it to crack into lighter materials. The light materials produced are raw gasoline, raw jet fuel, raw diesel fuel, and gas oil. These light materials boil off, leaving behind a solid coal-like material called petroleum coke. The light materials are processed further by other process units in the refinery.

The petroleum coke is reduced in size by a primary crusher. Belt conveyors transport the crushed petroleum coke from the primary crusher to a secondary crusher, which discharges into truck loading hoppers. Chevron does not normally operate the secondary crusher, and the petroleum coke passes through it into the truck loading hopper. The loaded trucks transport the petroleum coke to the Port of Los Angeles. Petroleum coke is ultimately used in heating and manufacturing operations outside of the SCAQMD's area of jurisdiction (referred to here as the district).

Proposed Modifications

The current annual average vacuum residuum feed capacity of the Coker is 60 to 65 MBPOD. Chevron is proposing modifications to increase the annual average capacity of the Coker to 75 to 80 MBPOD. This change will accommodate the increase in vacuum residuum production by the No. 2 and 4 Crude Units when they process heavier crude oil. Petroleum coke production will increase from an annual average of 3,950 tons per day to 4,460 tons per day. Approximately 20 additional truck trips per day will be required to transport the increased quantities of petroleum coke to the Port of Los Angeles, where it is sold to third parties outside of the district. The production of light products by the Coker will also increase.

The increased heating required by the increase in Coker feed rate can be accommodated within the current permitted capacity of the Coker feed heaters. Equivalent heating increases have occurred in the past as part of Chevron's operations to refine heavier crude oils.

Proposed modifications to the Coker include the installation of new heat exchangers to increase heat transfer, upgrades to the gas compression equipment at the Coker to increase capacity, replacement of distillation columns to increase their capacities. Specifically, Chevron is proposing the following modifications to increase the Coker's capacity:

- Install approximately 11 new heat exchangers, change service on existing exchangers and add or modify piping to increase heat transfer and removal;
- Install a new refrigeration unit to provide chilled cooling water to further improve cooling;
- Install a new cooling water supply and return system from Cooling Tower No. 9 to the Coker to increase cooling capacity. These modifications will increase the cooling water flow rate through Cooling Tower No. 9 by 13,000 to 14,000 gallons per minute.;
- Install a new depropanizer column and associated heat exchangers, pumps and piping at the Coker. This equipment will replace the existing depropanizer, which is nearly 60 years old and cannot be upgraded to handle the needed capacity;
- Replace the Wet Gas Compressor (K-501) and the interstage cooler and knockout vessel to increase gas compression capabilities;
- Replace the existing Main Fractionator Column (C-501) with a larger diameter higher capacity column. The existing Main Fractionator column is 118 feet tall and 16.5 feet in diameter. The proposed replacement Main Fractionator column will be approximately 170 feet tall and 27 feet in diameter at its widest part.
- Replace or upgrade numerous large valves to reduce pressure drop;
- Install approximately eight new pumps to increase pumping capacity; and

- Install additional automated controls for existing equipment to improve emergency response and normal operating efficiency.

Chevron is also proposing to modify portions of the petroleum coke conveying system to allow more efficient handling of the petroleum coke and to reduce particulate matter emissions during petroleum coke transport and export truck loading operations. The current capacity of the petroleum coke conveying system is adequate to accommodate the proposed increase in petroleum coke production, and Chevron is not proposing to increase the conveying system's capacity. Chevron is proposing the following modifications to the petroleum coke conveying system:

- Install a second primary crusher of the same capacity as the existing primary crusher. Only one of the primary crushers will be operated at any time.
- Replace one of the conveyor belts that transports petroleum coke from the primary crusher to the secondary crusher with a new conveyor belt that bypasses the secondary crusher and transports petroleum coke directly to the truck loading hopper. The existing belt conveyor that will be replaced is covered, but not enclosed. The proposed replacement belt conveyor belt and associated petroleum coke transfer locations will be fully enclosed and vented through a particulate matter control device, which will reduce particulate matter emissions.
- Modify the truck loading system to reduce the area that is open to the atmosphere, which will also reduce particulate matter emissions during truck loading operations.

Import of Crude Oil

Most of the crude oil processed by the El Segundo Refinery is imported by marine tankers through Chevron's El Segundo Marine Terminal (ESMT), which has two active berths located approximately 7,300 feet and 8,000 feet offshore of the refinery, respectively. Approximately 130 ship calls per year occur currently at the ESMT. As a result of the proposed project, the sources of crude oil imported through the ESMT will change. Chevron anticipates that the heavier crude oil that will be imported through the ESMT in the future will replace Arab Crudes, which are transported in Very Large Crude Carriers (VLCCs) with capacities in excess of one million barrels. The use of VLCCs is more cost-effective than the use of smaller marine tankers when the transport distance is long. The heavy crude oils that are anticipated to replace the Arab Crudes are generally produced in locations closer to the ESMT, such as South America. The use of VLCCs to transport crude oil is not as cost-effective as the use of smaller marine tankers, with capacities of 350,000 to 500,000 barrels, when the transport distances are shorter. Therefore, Chevron anticipates that importing heavier crude oil may increase the number of smaller marine tankers calling at the ESMT and decrease the number of larger marine tankers. For the purpose of this analysis, the worst-case increase is up to 15 additional ship calls per year as a result of the proposed project.

Although the annual number of ship calls may increase, the ESMT has two berths and can only accommodate two marine tankers at one time. The time required to offload crude oil from the tankers that currently call at the EMST as well as from tankers that are anticipated to transport heavy crude oil to the EMST after implementation of the proposed project, exceeds 24 hours. Therefore, the maximum number of marine tankers calling at the ESMT during a single 24-hour period will not change as a result of implementing the proposed project.

Construction Schedule

Table 1-1 shows anticipated peak construction manpower levels, construction hours per day, and construction days per week by month for the proposed project. As shown in this table, the overall project construction period is expected to last a total of 13 months, beginning in July 2006 and ending in July 2007. A turnaround, which is a time when refinery equipment is removed from service for maintenance activities, is scheduled for the No. 4 Crude Unit and the Coker from mid-March 2007 through early May 2007. A substantial amount of the construction for the proposed project, such as replacement of internal components in the No. 4 Crude Unit and connection of the proposed replacement Coker Main Fractionator Column, can only take place during this turnaround when the units are out of service. Therefore, the peak months for construction employment are expected to occur in March and April 2007, where employment would maximize at 500 workers. Average construction employment over the entire 13-month construction period (the average of the peak monthly employment values shown in Table 1-1), is estimated at about 268 workers.

Table 1-1
Heavy Crude Project Peak Construction Manpower and Construction Schedule by Month

Item	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07
Peak Manpower	150	235	245	250	300	350	350	350	500	500	150	100	5
Hours/Day	10	10	10	10	10	10	10	10	20	20	10	10	10
Days/Week	5	5	5	5	5	5	5	5	6	6	5	5	5

From July 2006 through February 2007, and from May 2007 through July 2007, construction is anticipated to take place 10 hours per day, from 6:30 a.m. to 5:00 p.m., five days per week, Monday through Friday. During the turnaround for the No. 4 Crude Unit and the Coker in March and April 2007, construction for the proposed modifications to the No. 4 Crude Unit and to the Coker is anticipated to take place in two 10-hour shifts, from 6:30 a.m. to 5:00 p.m. and from 6:30 p.m. to 5:00 a.m., six days per week, Monday through Saturday.

Project Alternatives

Pursuant to CEQA Guidelines §15126.6, the Draft EIR will identify and compare the relative merits of a range of reasonable alternatives to the proposed project. The project alternatives will consider other possible means of feasibly attaining the objectives of the proposed project that would avoid or substantially lessen significant effects of the proposed project. The alternatives will be developed by varying basic components of the proposed project. The "no project" alternative will also be evaluated.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

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

GENERAL INFORMATION

Project Title:	Chevron Products Company El Segundo Refinery Heavy Crude Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive, Diamond Bar, CA 91765
CEQA Contact Person and Phone Number:	Mr. Michael Krause. (909) 396-2706
Project Sponsor's Name:	Chevron Products Company
Project Sponsor's Address:	324 West El Segundo Boulevard El Segundo, CA 90245
Project Sponsor's Contact Person and Phone Number:	Mr. Charles Aarni (310) 615-5285
General Plan Designation:	Heavy Industrial
Zoning:	M-2 Heavy Industrial
Description of Project:	Chevron is proposing a number of changes to the El Segundo Refinery to improve its ability to refine the heavier crude oils that represent an increasing portion of the crude oil supplies that are expected to be available in the future. These changes primarily affect the refinery's No. 4 Crude Unit, and the Coker, and to a lesser extent the refinery's crude oil storage tankage.
Surrounding Land Uses and Setting:	The Chevron refinery is located in an area of mixed uses, with industrial, recreation, residential, and commercial uses nearby. The predominant adjacent land uses include: Dockweiler State Beach and Manhattan Beach and the El Segundo Generating Station to the west; a residential area of Manhattan Beach to the south; a golf course, a commercial and light industrial corridor to the east; and commercial and residential areas of El Segundo to the north.
Other Public Agencies Whose Approval is Required:	City of El Segundo

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. Any checked items represent areas that 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.

☐	Aesthetics	☐	Geology and Soils ?	☐	Population and Housing
☐	Agricultural Resources	☑	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality	☑	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☑	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☑	Transportation/Traffic
☐	Energy	☑	Noise	☑	Mandatory Findings

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 will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: September 29, 2005 Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor– CEQA
Planning, Rule Development,
and Area Sources

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?	☐	☑	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☑	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☑	☐

I.a), b) & c) The Chevron refinery is located in an area of mixed uses, with industrial, recreation, residential, and commercial uses nearby. The predominant adjacent land uses include: Dockweiler State Beach and Manhattan Beach and the El Segundo Generating Station to the west; a residential area of Manhattan Beach to the south; a golf course, a commercial and light industrial corridor to the east; and commercial and residential areas of El Segundo to the north. Some of these areas, particularly those associated with the beaches and Santa Monica Bay, are of scenic value.

However, all project activities will take place within the boundaries of the existing refinery. The new refinery equipment to be installed as part of the proposed project will be similar in size, appearance, and profile to the existing facilities and equipment at the El Segundo Refinery.

The primary change with a potential for visual resources impacts will be the proposed replacement of the existing Main Fractionator at the Coker with a new Main Fractionator. The existing Main Fractionator, which will be removed as part of the project, is 16.5 feet in diameter and 118 feet tall. The proposed new Main Fractionator, which will be located approximately 50 feet east of the existing Main Fractionator, will be built in three sections, which will be 19 feet, 21 feet, and 27 feet in diameter; and the top of the proposed new Main Fractionator will be approximately 170 feet above grade. Thus, the proposed new Main Fractionator will be approximately 30 percent taller than the existing column. However, there are other tall towers in the immediate vicinity of the proposed new Main Fractionator. The new column will be located approximately 100 feet from the coke drums. Drilling structures on top of the coke drums are 340 feet high, which is approximately twice as tall as the new column. Also, the Fluid Catalytic Cracking (FCC) Unit Reactor at the refinery is located approximately 350 feet from the Coker, and the top of the FCC Unit Reactor is 332 feet above grade.

There are also other tall structures in the refinery. These include the Atmospheric Distillation Column and Furnace Stacks at the No. 4 Crude Unit, which are located approximately 2,400 feet to the north of the Coker and are 215 feet and 155 feet tall, respectively. The Continuous Catalytic Reformer process plant is about 120 feet tall and is located approximately 2,000 feet to the southeast of the Coker.

The proposed modifications to the No. 4 Crude Unit involve replacing trays, heat exchangers, pumps, and desalter internals. None of these proposed changes will substantially affect the visual appearance of the No. 4 Crude Unit or its surroundings. Proposed changes to refinery crude oil storage tanks, another component of the proposed project, involve insulating one storage tank, and adding or modifying heating systems, pumps, and piping on several other storage tanks. The proposed new and modified equipment will be similar in size and appearance to the existing equipment.

No new equipment, other than the proposed new Coker Main Fractionator, will be constructed on currently unused land.

The refinery site is zoned by the City of El Segundo as M-2 (Heavy Manufacturing), with a variety of zoning (commercial to industrial) surrounding the refinery, reflecting the diverse land uses. Because of its height, the upper portion of the proposed new Main Fractionator is expected to be visible from most off-site locations. However, the proposed new Main Fractionator will be visually indistinguishable from the other tall refinery structures that exist in the immediate vicinity of the column and elsewhere in the refinery, including a number of nearby structures that are considerably taller than the new column. Moreover, the Coker is in the center of the refinery site, which would somewhat reduce its visual impacts from off-site locations compared to if it were located near the edge of the site.

Section 15-6B-7 of the City of El Segundo Municipal Code provides Site Development Standards with which all uses within the M-2 zone must comply. Section 15-6B-7B states that buildings and structures in the M-2 zone shall not exceed a height of 200 feet. Thus, the proposed project structures would be consistent and in compliance with the height requirements of the City of El Segundo.

Because of the physical similarity of the new equipment associated with the proposed project relative to the existing equipment being upgraded or replaced, and because the new equipment will be located in areas of the refinery that already contain numerous and similar existing pieces of large refinery equipment, the structures that will be constructed as part of the proposed project are expected to have less-than-significant impacts on the existing visual character or quality of the refinery site and its surroundings. No substantial degradation of visual resources is expected.

I.d) There will be minimal additional permanent light sources required as part of the proposed project. New lighting that will be installed on the proposed equipment will be consistent in intensity and type with the existing lighting on equipment and other refinery structures that are being replaced or modified. The refinery equipment that will be modified as part of the proposed project, as well as other equipment throughout the facility, is currently illuminated at night for safety and security purposes. All proposed project modifications will occur within the boundaries of the existing refinery property. Thus, no new areas would be illuminated on-site or off-site by permanent additional lighting.

For 11 months of the anticipated 13-month construction period, construction activities associated with the proposed project are planned to occur only during daylight hours, which will eliminate the need for additional night lighting during most of the construction activities. Temporary lighting will be required during the two remaining months when nighttime construction is anticipated to occur. Typical stanchion-mounted banks of lights will be used to provide the temporary lighting. The number, illuminating power and placement of lighting fixtures at the specific construction sites will depend on the existing light sources at or near the individual work areas. Temporary lighting will not be placed in on-site or off-site areas that currently have no lighting. Standard practice at the refinery is to place construction lighting so that it faces toward the interior of the refinery, particularly when working near the periphery of the refinery property, to shield and focus the lights so that they point downward or parallel to the ground, and to limit the amount of lighting to what is needed to adequately illuminate the specific locations where the night work is occurring. These practices are followed to avoid or minimize potential lighting impacts on areas outside the refinery property.

Project construction activities associated with the proposed Coker modifications will take place in the interior of the refinery, and the temporary lighting associated with these activities is not expected to be discernible from the existing refinery lighting from off-site locations. Nighttime work that would require temporary lighting is not expected for the proposed storage tank modifications in the southern portions of the refinery; if nighttime construction were to be required for these proposed modifications, the construction activities and the temporary construction lighting would be screened by existing berms and mature trees along the southern boundary of the refinery property. However, the No. 4 Crude Unit is near the northern boundary of the refinery, and the No. 4 Crude Unit and its existing lighting are visible from off-site locations across El Segundo Boulevard and from a hilly area north of the refinery, although some limited screening is provided by existing trees along El Segundo Boulevard. The temporary construction lighting will be discernible from the normal lighting at the No. 4 Crude Unit from these locations.

As noted above, the temporary lighting for these construction activities near the refinery boundary will be pointed toward the interior of the refinery and will be oriented to illuminate only the areas where the work activities are occurring, which will minimize potential impacts at these off-site locations. Additionally, land use along the north side of El Segundo Boulevard is commercial and light industrial, and these types of businesses are typically closed at night. The nearest residences are located in the second block north of the refinery boundary.

Further, the proposed nighttime construction activities at the No. 4 Crude Unit will occur during a currently scheduled turnaround (routine maintenance) for the unit, which is necessary even if the proposed project were not to occur. This turnaround will also include nighttime activities, which will require temporary lighting similar to the temporary lighting required for the proposed project. Thus, increased lighting levels at the No. 4 Crude Unit would occur during this two-month period in the absence of the proposed project.

Based on these considerations, the proposed project is not expected to create substantial new sources of light or glare which would adversely affect day or nighttime views in the area.

Conclusion

No significant adverse impacts on aesthetics or light and glare impacts are expected from the proposed project. Therefore, aesthetics impacts will not be further addressed in the Draft EIR.

		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?	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
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?	☐	☐	☑

II.a) The proposed project involves modifications within the confines of an existing refinery that are consistent with heavy industrial zoning. No agricultural resources exist at or in the vicinity of the Chevron refinery and no new land will be acquired as part of the proposed project. Further, the proposed project will not convert Farmland (as defined above) to non-agricultural use or involve other changes in the existing environment that could convert Farmland to non-agricultural use.

II.b) & c) Land in the vicinity of the refinery is not currently zoned for agricultural use. The proposed project does not conflict with an existing agricultural zone or Williamson Act contracts and does not include converting agricultural land for non-agricultural uses.

Conclusion

No impacts on agricultural resources are expected from the proposed project. Therefore, agricultural resources impacts will not be further addressed in the Draft EIR.

		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?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
b)	Violate any air quality standard or contribute to an existing or projected air quality violation?	☑	☐	☐
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)?	☑	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☑	☐	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☑	☐
f)	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

III.a) The Air Quality Management Plan (AQMP) is a blueprint of control measures designed to meet ambient air quality standards. The control measures are developed by compiling a current air pollutant emissions inventory, projecting the emissions inventory to future years, evaluating the impacts of future emissions on ambient air quality through air quality modeling, determining reductions in the projected future emissions needed to attain the standards, and devising control measures that will achieve those emission reductions. The AQMP is updated every three years. The last update to the SCAQMD AQMP was in 2003 (SCAQMD, 2003).

The 2003 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 and vehicle-miles-traveled (VMT) projections developed by the Southern California Association of Governments (SCAG) are some of the inputs used to develop the AQMP.

As indicated in Table 1-1, construction employment for the proposed project is anticipated to maximize at 500 construction workers. The total additional daily VMT from construction worker commuting will be approximately 15,000 miles per day, based on an average daily roundtrip commuting distance of 30 miles per worker (500 workers x 30 miles per worker = 15,000 miles). In comparison, the projected increase in daily VMT between 1997 and 2010 in Table 3-2 of the 2003 AQMP is 90,600,000 miles per day, or an average annual increase of approximately 7,000,000 miles per day per year (90,600,000 miles per day / 13 years = 6,969,231 miles per day

per year). Thus, the VMT from construction worker commuting for the proposed project is only about 0.2 percent of the projected annual average VMT increase in the 2003 AQMP. Therefore, construction worker commuting during construction of the proposed project will not cause significant increases in the growth projections in the 2003 AQMP.

As indicated in the Population and Housing and Transportation/Traffic sections, the proposed project will not require additional refinery employees, and, thus, will not generate additional employee commuting traffic during operation. Additionally, as also indicated in the Transportation/Traffic section, operation of the proposed project will only increase truck trips to export petroleum coke by approximately 20 trips per day. Therefore, the proposed project will not cause significant increases in the growth projections in the 2003 AQMP during project operation.

Additionally, this project must comply with applicable SCAQMD requirements and 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 requirements that include the use of best available control technology (BACT) and offsetting and emission increases over one pound per day with emission reduction credits (ERCs) at applicable offset ratios. Further, the proposed project must also comply with prohibitory rules, such as Rule 403, for the control of fugitive dust. By meeting these requirements, the project will be consistent with the goals and objectives of the AQMP.

III.b), c) & d) Project construction may cause short-term air quality impacts. Nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon monoxide (CO), volatile organic compounds (VOCs), and fugitive dust (PM10) may be generated from construction-related traffic including construction worker commute trips, material delivery trips, etc.; the operation of construction equipment; installation of control equipment, and related disturbances to the ground surface. The construction of a project as comprehensive as the proposed project will likely occur in phases. The impacts of these construction emissions during these phases will be evaluated in the Draft EIR.

An increase in emissions may occur during the operation of the proposed project. Operational phase changes in the emissions of criteria pollutants will be calculated in the Draft EIR. The proposed project may result in an increase in emissions of VOCs due to operation of new fugitive components and process vents and/or drains. Most elements of the proposed project, such as distillation columns, function as sealed systems. VOC emissions contribute to the formation of ozone in the atmosphere. Additionally, emissions may be generated from modified combustion sources at the refinery. Emissions may also occur from indirect sources (e.g., crude oil import by marine tankers and petroleum coke export by trucks) during operation of the project.

If increases in criteria pollutant emissions that have the potential for significant localized impacts are estimated, air dispersion modeling will be performed to evaluate air quality impacts to sensitive receptors. The results of the modeling will be included in the Draft EIR.

The project may also alter the amount and nature of toxic air contaminant emissions from the refinery as well as from marine tankers and coke export trucks. The Draft EIR will include estimates of project-related toxic emissions changes, and a human health risk assessment will be conducted to determine the net effect of expected changes in toxic air contaminant emissions from the refinery, marine tankers and coke export trucks and whether they adversely affect sensitive receptors.

III.e) & f) Proposed project construction and operation are not expected to cause objectionable odorous emissions that would noticeably change the nature and intensity of odors emitted at the refinery. Sulfur compounds (e.g., hydrogen sulfide) are the most noticeable odor source in refinery operations. The proposed project would not alter the methods or equipment for handling sulfur and sulfur-bearing compounds at the refinery. The sulfur content of crude oil is not related to its density: a particular heavy crude oil may have a lower or a higher sulfur content than a particular light crude oil. Chevron does not anticipate that the average sulfur content of heavier crude oil that will be processed as a result of the proposed project will be higher than the average sulfur content of the mix of crude oils currently processed. The sulfur-bearing materials are currently and will continue to be processed in the Sulfur Recovery Units where they are converted to elemental (liquid) sulfur. Elemental sulfur does not emit appreciable odor. New and modified components of the proposed project are required to comply with BACT requirements as well as existing SCAQMD rules (such as Rule 402 - Nuisance) and regulations. Compliance with these requirements helps minimize the frequency and magnitude of odor events at the facility.

The proposed project will be required to comply with all relevant source-specific rules for existing equipment (SCAQMD Regulation XI source specific rules); all relevant prohibitory rules (SCAQMD Regulation IV rules); all rules governing installation of new, modified, or relocated equipment (SCAQMD Regulation XIII new source review and XX RECLAIM rules); etc. Thus, the proposed project is not expected to diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutants.

Conclusion

Project-specific and cumulative adverse air quality impacts associated with increased emissions of both criteria pollutants and toxic air contaminants during the construction and operation phases of the proposed project will be evaluated in the Draft EIR. Impacts to sensitive receptors also will be addressed in the Draft EIR.

		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?	☐	☐	☑
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?	☐	☐	☑
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?	☐	☐	☑
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?	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
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?	☐	☐	☑

IV.a), b), c), d & f) The proposed project would be located within existing boundaries of the Chevron refinery, which is zoned and has been used for heavy industrial purposes since 1911, and has already been disturbed. The refinery site does do not support riparian habitat, federally protected wetlands (as defined by § 404 of the Clean Water Act), or migratory corridors. With the exception of some decorative landscaping, plants are removed from operating areas for safety reasons. There are three special-status species that have been reported in the immediate vicinity of

the Refinery: two animal species (the El Segundo blue butterfly and the Pacific pocket mouse) and one plant species (the beach spectaclepod).

The El Segundo Blue Butterfly (*Euphilotes battoides allyni*) is a small (wing span of less than one inch), brightly colored butterfly that historically has been found in the El Segundo sand dunes of Los Angeles County. Because of extensive habitat loss, degradation, and fragmentation due to urban development, the butterfly's habitat has been reduced to two areas: sand dunes near the Los Angeles International Airport, which contains the largest population of the butterfly, and two acres at the butterfly sanctuary that was created within the property of the Chevron El Segundo Refinery.

The El Segundo blue butterfly was listed as an endangered species by the federal government in 1976. The butterfly was discovered on an undeveloped portion of the refinery property in 1975, and, shortly thereafter, the area where the butterfly was found in the northwest portion of the refinery property was voluntarily fenced by Chevron to protect the butterfly's habitat and the coastal buckwheat plant (*Eriogonum parvifolium*), upon which the butterfly feeds during all stages of its life cycle.

Because the buckwheat plant at the refinery's butterfly sanctuary has been threatened by various invasive species and annual grasses (e.g., tumbleweeds, rye grass, and ice plant), efforts have been made on an ongoing basis since the early 1980s to inhibit weed growth and stimulate buckwheat. Approximately 5,000 buckwheat plants have been transplanted at the refinery since 1983 (Chevron 2005). In the mid 1980s, there were only about 400 of these butterflies at the Chevron butterfly sanctuary; at present there are approximately 10,000 (Chevron 2005b). The butterfly population on Los Angeles International Airport property also has increased, from a population of approximately 500 in 1985 to between 40,000 and 50,000 in 2001 (City of Los Angeles 2001).

The Pacific pocket mouse (*Perognathus longimembris pacificus*) is a small brownish rodent that lives in fine-grained sandy areas (coastal strand, coastal dunes, coastal sage scrub, and river alluvium) in the immediate vicinity of the Pacific Ocean in southwestern California (SCAQMD 2001). Historically, the mouse's range extended from Los Angeles County south to the Mexican border, including portions of the Chevron refinery property. Only a few known populations remain, and they are in Orange County (Dana Point) and San Diego County (Camp Pendleton). The Pacific pocket mouse was last reported in the area of the Chevron refinery in 1938, and, thus, is not expected to exist at the refinery at present.

The beach spectaclepod (*Dithyrea maritime*) is a small low-growing perennial herb. The species is native to California and occurs in foredunes, active sand, and dune scrub from San Luis Obispo south to Baja California. The beach spectaclepod is considered extremely rare by the California Native Plant Society; it is listed as threatened by the State of California and as a Species of Concern by the federal government. The only reported occurrence for this plant at the refinery site was in 1884, and the species is not expected to exist at the refinery at present (SCAQMD 2001).

The proposed project activities will take place at an existing refinery, whose active areas (including the locations where refinery equipment will be modified and constructed) have been highly disturbed and contain no significant biological resources. No impacts are expected to special status species. The Pacific pocket mouse and beach spectaclepod have not been sighted at the refinery in decades (since 1938 for the mouse and since the late 19th century for the spectaclepod).

The refinery area population of the federally endangered El Segundo blue butterfly has increased substantially over the past 20 years, due to the existence of and habitat improvements at the refinery butterfly sanctuary. These increases in blue butterfly population have occurred while refinery operations have continued nearby. The nearest location to the butterfly sanctuary where proposed project activities are expected (the No. 4 Crude Unit) is over 3,000 feet from the sanctuary, with other refinery equipment located in closer proximity. The proposed project would not be expected to have significant adverse impacts on the El Segundo blue butterfly.

In summary, the proposed project would have no significant impacts on special-status animal or plant species.

IV.e) Because modifications to implement the proposed project will occur entirely within the boundaries of the refinery, the project will not conflict with local policies or ordinances protecting biological resources nor local, regional, or state conservation plans of any type.

Conclusion

The proposed project is not expected to adversely affect special-status animal and plant species or other biological resources (riparian habitats, wetlands, or migratory corridors); or conflict with ordinances or conservation plans. Biological resources will not be further addressed in the Draft EIR.

		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?	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☑	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d)	Disturb any human remains, including those interred outside formal cemeteries?	☐	☑	☐

V.a) CEQA Guidelines §15064.5 states that resources listed in the California Register of Historical Resources or in a local register of historical resources are considered "historical resources." A records search was conducted at the South Central Coastal Information Center (SCCIC) in August 2005 of all recorded archaeological sites and survey reports within a 0.5 mile radius of the El Segundo Refinery (see Appendix A). Federal state and local historic listings were

reviewed along with historic maps. In addition, this background research was supplemented by an internet search for relevant historical information. The research revealed that the listings of the National Register of Historic Places, California Historical Landmarks, California State Historic Resources Inventory, California Points of Historical Interest, and Los Angeles County Landmarks include no properties within the refinery. One historic site, P-186856, is recorded at the outer edge of the 0.5-mile radius. Because the proposed project activities will occur entirely within the refinery boundaries, site P-186856 would not be directly or indirectly impacted by the proposed project. Based on the results of these records searches, the proposed project will not cause an adverse change in the significance of a resource listed in the California Register of Historical Resources or in a local register of historical resources.

Additionally, CEQA Guidelines §15064.5(a)(3) states that "generally, a resource shall be considered by the lead agency to be '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".

The California Register eligibility criteria are modeled on those of the eligibility criteria of the National Register of Historic Places. Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places unless they can be shown to be exceptionally important (SCVTA/FTA 2004). The proposed project will affect only one structure that is more than 50 years old: the proposed Coker modifications include demolition of a depropanizer that was built in 1948. However, the depropanizer does not meet the criteria to be considered historically significant in CEQA Guidelines §15064.5(a)(3) for the following reasons:

(A) The depropanizer is not associated with events that have made a significant contribution to the broad patterns of California's history or cultural heritage;

(B) The depropanizer is not associated with the lives of persons important in our past;

(C) The depropanizer does not embody the distinctive characteristics of a type or method of construction and does not represent the work of an important creative individual or possess high artistic values; and

(D) The depropanizer has not yielded and is not likely to yield information important in prehistory or history.

Therefore, the proposed project will not cause an adverse change in the significance of a resource potentially eligible for listing in the California Register of Historical Resources.

V.b), c) & d) The August 2005 records search indicated that 14 archaeological investigations have been performed within a 0.5-mile radius of the refinery, including three surveys of small linear areas within the refinery boundaries. No prehistoric sites or Native American sacred lands are recorded within the refinery boundaries or within a 0.5-mile radius of the facility. No paleontological resources are known to exist at the facility.

The 90+ years of operations at the El Segundo Refinery have included extensive ground disturbance associated with the construction and operation of refinery facilities and equipment. Proposed project activities will take place in areas where the ground surface has been previously disturbed. The extent of previous earth disturbance has reduced the likelihood that previously unknown archaeological or paleontological resources will be encountered during project construction. However, it is possible that intact prehistoric deposits may occur below the disturbed horizon, although the proposed project will not involve extensive subsurface construction activities.

While the likelihood of encountering cultural resources is low, if such resources were to be encountered unexpectedly during ground disturbance associated with construction of the proposed project, there would be the potential for significant adverse impacts. To minimize the risk of adverse impacts occurring, project construction will incorporate a number of standard protective measures during earth-disturbing activities:

- If cultural resources are exposed, a professional archaeologist and a Gabrielino/Tongva representative will be retained to monitor the subsurface work;
- The archaeological monitor will have the authority to temporarily halt or redirect earth disturbance work in the vicinity of the exposed cultural resources, so the find can be evaluated and mitigated as appropriate; and
- As required by State law, if human remains are unearthed, no further disturbance will occur until the County Coroner has made the necessary findings concerning the origin and disposition of these remains. The Native American Heritage Commission will be notified if the remains are determined to be of Native American descent.

Conclusion

The proposed project is not expected to have significant adverse impacts on historic or prehistoric cultural resources or paleontological resources; and these issue areas will not be addressed further in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑
e)	Comply with existing energy standards?	☐	☐	☑

VI.a) & e) The proposed project is not expected to conflict with energy conservation plans or energy standards. It is in Chevron's economic interest to conserve energy and comply with existing energy standards in order to minimize operating costs. New equipment installed as part of the proposed modifications will be as efficient as or more efficient than replaced equipment. Further, energy used to operate the modified No. 4 Crude Unit, Coker, and storage tanks is not considered a wasteful use of energy that will interfere or conflict with existing energy conservation plans.

VI.b) It is not expected that natural gas-fired or electrically powered construction equipment or vehicles will be used and, thus, there will be no need for new or substantially altered power or natural gas utility systems during construction of the proposed project. The proposed project will not result in the need for new or substantially altered power or natural gas utility systems during operation, because the power and natural gas needed to operate the proposed new and modified equipment are available from the existing refinery utility system.

VI.c) & d) Operation of the proposed project is not expected to require additional staffing at the refinery, and thus there will be no additional fuel use associated with worker commute trips. No additional truck deliveries to the refinery are expected during project operations. However, up to 20 additional truck shipments per day of petroleum coke from the refinery are expected during operation, and the trucks are anticipated to be diesel-powered. Project operation will require the use of natural gas and electrical power in the new and modified refinery equipment, such as pumps and heaters.

Conclusion

The impacts of project energy consumption during construction are not considered to be a wasteful use of energy and are expected to be the same or less than the existing situation. Therefore, this topic will not be assessed in the Draft EIR.

		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:	☐	☑	☐
	• 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?	☐	☑	☐
	• Strong seismic ground shaking?	☐	☑	☐
	• Seismic–related ground failure, including liquefaction?	☐	☑	☐
	• Landslides?	☐	☑	☐
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☑	☐
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?	☐	☑	☐
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?	☐	☐	☑
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?	☐	☐	☑

VII.a) The proposed project will be constructed in an area of known seismic activity. Approximately 35 active faults are known to exist within a 50-mile radius of the refinery. Of primary concern are two active faults: the Newport-Inglewood Fault , approximately five miles north of the refinery, and the Palos Verdes Fault, approximately 3.8 miles south of the site.

The Newport-Inglewood Fault Zone represents the most significant source of strong seismic ground shaking at the refinery. The Newport-Inglewood Fault Zone extends more than 40 miles from Newport Bay to Beverly Hills and trends to the northwest. The greatest concentration of

seismic events on the Newport-Inglewood Fault Zone is related to the 1933 Long Beach earthquake and its aftershocks. The fault is considered capable of generating a 6.9 magnitude earthquake.

Another significant fault in the immediate refinery vicinity is the Palos Verdes Fault Zone. This fault extends approximately 72 miles from Santa Monica Bay south to Lausen Knoll in the southern San Pedro Channel. The Palos Verdes fault is considered capable of a 7.1 magnitude earthquake. As cited in the Final EIR for the Chevron-El Segundo Refinery California Air Resources Board (CARB) Phase 3 Clean Fuels Project, evaluations by the California Division of Mines and Geology (CDMG) indicate that there is a 10 percent probability of earthquake ground motion exceeding 0.45g at the refinery site over a 50-year period (SCAQMD 2001).

Although within a seismically active area, according to the Alquist-Priolo Earthquake Fault Zoning Maps and Fault Activity Map of California (1994), the El Segundo Refinery is not located on a fault trace that would define the site as a special seismic study zones under the Alquist-Priolo Act. Thus, the risk of earthquake-induced ground rupture is considered less than significant.

The proposed refinery construction activities will conform to the Uniform Building Code and other applicable codes. Where appropriate, the project design will be reviewed and approved by a civil or structural engineer with training in design methods to prevent damage from a possible earthquake. With adherence to proper design and construction practices, no significant impacts from seismic ground shaking would be expected.

Liquefaction is a mechanism of seismic ground failure in which earthquake-caused ground motion causes loose, water-saturated, cohesionless soils to be transformed to a liquid state. The refinery site has not been identified as an area where liquefaction is considered a significant potential risk (SCAQMD 2001). The site also is not considered to be an area with the potential for permanent ground displacement due to earthquake-induced landslides or due to heavy precipitation events (SCAQMD 2001).

VII.b) Erosion from wind or water could occur during construction of the proposed project as soils are exposed at the locations where new or modified equipment are proposed to be sited. However, the areas of project-related ground disturbance are expected to be small. Standard construction grading practices and retention features will contain runoff. A construction plan will be prepared that includes guidance for construction phase erosion control, and a Stormwater Pollution Prevention Plan (SWPPP) will be developed for project construction to minimize stormwater and sediment from the locations where project activities are planned. As needed, the refinery's overall SWPPP will be modified to incorporate changes related to the refinery equipment modified and constructed as part of the proposed project. Finally, the proposed project will be required to comply with SCAQMD Rule 403, which requires various measures to control fugitive dust (e.g., application of water during ground disturbing activities), and these measures will minimize wind erosion. For these reasons, potential erosion impacts are expected to be less than significant.

VII.c) The refinery site is not located in area of unstable geologic or soil conditions. The refinery site has not been affected in the past by ground subsidence and is not expected to experience significant subsidence in the future. As discussed under VII.a) above, the refinery site is not in an area of significant liquefaction or landslide risk.

VII.d) The uppermost four to 10 feet of soil at the refinery generally is composed of granular alluvial materials and sandy, silty artificial fills. These materials do not tend to show significant soil expansion or be considered an expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), and thus, the proposed project would not be expected to result in significant risks due to expansive soils.

VII.e) Because wastewater associated with the proposed project will be discharged to a sewer system, soils at the refinery site are not required to be usable to support septic tanks or other alternative wastewater disposal systems.

Conclusion

No significant adverse impacts on geology and soils are expected from the proposed project. Thus, impacts of the proposed project on geology and soils will not be further addressed in the Draft EIR.

		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, and disposal of hazardous materials?	☐	☐	☑
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?	☐	☐	☑
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
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?	☐	☐	☑
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?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
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?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☑	☐	☐

VIII.a) & b) The Chevron El Segundo Refinery currently stores, uses and transports hazardous materials. The proposed project will not change the quantities of non-flammable hazardous materials, as regulated under the Federal Risk Management Program or the California Accidental Release Program, or the manner in which they are stored, used or transported. Therefore, the proposed project will not create a significant hazard to the public or the environment through the routine transport, use, and disposal of non-flammable hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of non-flammable hazardous materials into the environment. This topic warrants no further analysis in the Draft EIR.

VIII.c) No existing or proposed schools are located within one-quarter mile of the proposed project site. Therefore, the proposed project will not create hazardous emissions, or handle hazardous or acutely hazardous materials, substances or waste within one-quarter of a mile of an existing or proposed school. This topic warrants no further analysis in the Draft EIR.

VIII.d) The existing refinery is listed as a hazardous materials site compiled pursuant to Government Code §65962.5; however, the proposed project equipment and activities are similar to the existing equipment and activities related to refining crude oil. Additionally, there are ongoing remediation activities at the refinery. The activities related to the proposed project are not expected to significantly adversely impact the remediation activities currently being undertaken as a result of the refinery being listed as hazardous materials sites pursuant to Government Code §65962.5. Therefore, this topic will not be further addressed in the Draft EIR. Disturbance and excavation of contaminated soils, if any, will be performed in accordance with applicable requirements.

VIII.e) & f) The refinery is located within two miles of Los Angeles International Airport. However, the modifications to the facilities required for the proposed project are comparable to existing facilities and would not increase safety hazards for people residing or working in the

proposed project area. The height of the proposed new Coker Main Fractionator will not exceed the 200-foot height threshold that would require Federal Aviation Administration notification, as specified in 14 CFR §17.13(a). This topic warrants no further analysis in the Draft EIR.

VIII.g) The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evaluation plan. Procedures for emergency response are provided to employees along with training guidelines and the use of personal protective equipment. All construction and operation personnel will be safety-trained in accordance with Chevron's procedures. No adverse occupational health impacts are expected as a result of construction and operation of the proposed project. Therefore, this specific issue does not warrant further analysis in the Draft EIR.

VIII.h) The proposed project will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees, and will not expose people or structures to wildland fires because the refinery is not located near any forested wildlands. Further, the proposed project is not located in an area where residents are intermixed with wildlands. No substantial or native vegetation exists within the operational portions of the refinery. In summary, the proposed project is not expected to significantly increase vegetation-related fire hazards, and this topic will not be further addressed in the Draft EIR.

VIII.i) The Coker produces flammable materials, including raw gasoline and raw diesel fuel. Because the proposed replacement Coker Main Fractionator Column will be larger than the existing Coker Main Fractionator Column, the proposed project will increase the quantities of flammable materials contained within the Coker Main Fractionator Column. Thus, the potential exists that a significant increase in fire hazards could occur as a result of upset or accident conditions involving the release and subsequent ignition of flammable substances from the proposed replacement Coker Main Fractionator Column as compared with the existing Coker Main Fractionator Column. The potential effects of an accidental release and ignition of flammable materials from the proposed replacement Coker Main Fractionator Column will be evaluated in the Draft EIR.

Although natural gas and refinery fuel gas (which has the same flammable properties as natural gas) are currently used at the refinery, the proposed project will not significantly change the quantities that are used.

Conclusion

The effects of an accidental release and subsequent ignition of flammable materials from the proposed Coker Main Fractionator Column are potentially significant and will be evaluated in the Draft EIR.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
IX. HYDROLOGY AND WATER QUALITY. Would the project:			

		Potentially Significant Impact	Less Than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements?	☑	☐	☐
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)?	☑	☐	☐
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?	☐	☑	☐
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?	☐	☑	☐
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?	☐	☑	☐
f)	Otherwise substantially degrade water quality?	☑	☐	☐
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?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☑	☐	☐
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?	☐	☐	☑
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?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☑	☐	☐
o)	Require 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?	☑	☐	☐

IX.a), b), f), k), n), & o) The proposed project will involve increased water consumption and increased wastewater generation. Thus, the potential exists for significant adverse impacts on both water supplies and water quality, and water supply and water quality impacts will be addressed in the Draft EIR.

IX.c), d) & e) The proposed project would be constructed at an existing refinery and involves the construction of a limited number of surface features. The refinery is mostly paved, and the proposed project primarily consists of modifications to existing structures, so little or no grading will be required. For these reasons, impacts to stormwater runoff volumes, drainage patterns, groundwater characteristics or flow are expected to be less than significant, and these topics will not be further addressed in the Draft EIR.

IX.g), h) & i) The proposed project would be constructed at an existing refinery and does not include the construction of any housing, nor would it require placing housing within a 100-year

flood hazard area. The refinery is not located within a 100-year flood hazard area so the proposed project would not impede or redirect 100-year flood flows. The proposed project is not located within a flood zone and would not expose people or property to any known flood-related hazards. Thus, these topics will not be further addressed in the Draft EIR.

IX.j) The refinery is located approximately 900 feet from the ocean at elevations from 45 feet to 196 feet above sea level. Based on the refinery's distance and elevation in relation to the ocean, the proposed project is not expected to result in increased risk of seiche or tsunami. The proposed project site is located in a flat area with no hills or mountains nearby so the potential for significant impacts from mudflows is considered less than significant. These topics will not be further addressed in the Draft EIR.

IX.l) & m) Based on the capacity of the existing water/wastewater treatment facilities, which can accommodate the relatively small additions of water from the proposed project, construction of new water or wastewater treatment facilities, or stormwater drainage facilities will not be required. These topics will not be further addressed in the Draft EIR.

Conclusion

The proposed project has the potential for significant adverse impacts in terms of both water supply and water quality and these issues will be evaluated in the Draft EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:			
a)	Physically divide an established community?	☐	☐	☑
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?	☐	☐	☑
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

X.a) The proposed project includes improvements and modifications within an existing industrial facility that is zoned and used for heavy manufacturing. No established communities are located on the refinery property, and consequently, the proposed project will not physically divide an established community.

X.b) The refinery is located in the City of El Segundo within Los Angeles County in a generally urbanized area which includes a substantial amount of industrial and port-related development, due to the proximity of the Ports of Los Angeles and Long Beach. The areas surrounding the refinery can generally be characterized as a blend of heavy and light industrial, commercial, medium- and high-density residential, and industrial/ manufacturing.

Land use at the refinery and in the surrounding vicinity is consistent with the City of El Segundo General Plan land use designations for the area. The Land Use element of the General Plan currently in force was adopted in December 1992, and no revisions have occurred since that time (City of El Segundo Planning Department 2005). The strip of development on the north side of El Segundo Boulevard between Main Street and Richmond Boulevard, northeast of the refinery's main office visitor parking lot and approximately one-half mile west of the No. 4 Crude Unit, is part of the Downtown Specific Plan, adopted in August 2000. The Refinery site is zoned by the City of El Segundo as Heavy Industrial (M-2) (City of El Segundo Planning Department 2005).

The overall activities and products produced at the refinery will remain the same. The proposed modifications would not conflict with the City of El Segundo General Plan land use designation for

the refinery site nor would they conflict with the Downtown Specific Plan for the area north of the refinery site. The proposed project would not require zoning or land use changes.

The modifications and additions proposed at the refinery as part of the proposed project would be subject to plan check review by the City of El Segundo during the building permit approval process. The City of El Segundo will also review the Draft EIR as well as the site plans and other building permit-related application materials to ensure that the applicable construction design standards and/or zoning regulations are being met. The Draft EIR will evaluate project consistency with the applicable land use plans, policies, and regulations of the City of El Segundo.

X.c) Because the location of the proposed project is in an industrialized area for which no habitat or natural community conservation plans exist, the proposed project will not conflict with local habitat conservation plans or natural community conservation plans.

Conclusion

The proposed project would not physically divide an established community and it would not conflict with the applicable land use plans, policies, and regulations of the City of El Segundo. There are no local habitat conservation plans or natural community conservation plans at the project site. Land use will not be further addressed in the Draft EIR.

		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?	☐	☐	☑
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?	☐	☐	☑

XI.a) & b) The proposed project will be constructed on land within an existing industrial site. There are no known mineral resources on the refinery site. Any potential loss of mineral resources from the extraction of the crude oil processed takes place off-site and will continue regardless of the proposed project. Therefore, the proposed project will not result in the loss of a known mineral resource that would be of value to the region and residents of the state. Similarly, because there are no known mineral resources on the project site, the project will not 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.

Conclusion

No adverse impacts to mineral resources are expected from the construction and operation of the proposed project. Mineral resources will not be further addressed in the Draft EIR.

		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?	☑	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☑	☐	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☑	☐	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☑	☐	☐
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?	☐	☑	☐
f)	For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

XII.a) & b) The proposed project facilities are located in an existing industrial setting. Project construction and operations activities will generate noise. Exposure of persons to or generation of excessive noise levels will be assessed in the Draft EIR and compared with standards established in the City of El Segundo General Plan and noise ordinance, or applicable standards of other agencies.

XII.c) A permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project may occur due to the operation of modified and new equipment, as well as the additional truck traffic at the refinery associated with export of proposed increased coke production. Thus, potential operational noise impacts will be evaluated in the Draft EIR.

XII.d) A temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the project may occur due to the generation of temporary noise from proposed project construction activities. Thus, potential construction noise impacts will be evaluated in the Draft EIR.

XII.e) The proposed project consists of relatively minor improvements within a large industrial facility. Although the refinery is located approximately two miles south of Los Angeles International Airport, the types of noise expected from the proposed project would be unlikely to significantly interact with noise generated from the airport due to noise attenuation. Thus, the proposed project is not expected to expose people residing or working in the project area to excessive noise levels. This topic will not be further addressed in the Draft EIR.

XII.f) The proposed project is not within the vicinity of a private airstrip and would not expose people residing or working in the project area to excessive noise levels. This topic will not be further addressed in the Draft EIR.

Conclusion

The noise impacts associated with the proposed project are potentially significant. Project noise impacts will be addressed in the Draft EIR.

		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)?	☐	☐	☑
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

XIII.a), b) & c) Construction of the proposed project will take place over a period of approximately 11 months at an existing refinery located in a highly urbanized and populous area of southern California. At the peak of construction, approximately 500 temporary construction jobs (see Table 1-1) will be created by the proposed project. Because of the large size of the construction work force available in the southern California area, all 500 temporary construction jobs are expected to be filled from the existing regional labor pool. Once construction is completed, no additional staff is expected to be needed at the refinery for long-term operation of

the proposed project. Thus, the proposed project will not induce substantial growth either directly or indirectly.

Because the proposed project will occur within an existing facility located in a highly urbanized area, no additional housing will be necessary to accommodate the labor force needed during construction, and, further, no existing housing will be displaced. Substantial housing growth in the area will not occur as a result of the proposed project. Therefore, no impacts are expected to result from the proposed project.

Conclusion

No adverse impacts on population size, population distribution, or housing are expected to result from proposed project construction and operation. Population and housing issues will not be discussed further in the Draft EIR.

	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?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

XIV.a) To respond to emergency situations, the Chevron El Segundo Refinery maintains an on-site fire department. The refinery fire department adheres to National Fire Protection Association standards and is recognized as a professional functioning fire department by the California State Fire Marshal's office. The department is staffed with trained and certified fire fighters and emergency medical technicians. The refinery fire department is capable of responding to petroleum and structure fires, hazardous materials releases, and confined-space rescues.

The on-site fire department holds regular training sessions and drills in conjunction with local fire (e.g., City of El Segundo) fire departments. The refinery also is active in the Beach Cities Community Awareness and Emergency Response (CAER) organization, where industry and local

government agencies coordinate emergency response activities, and is a sponsor of the Community Alert Network (CAN) telephone call-out system.

The Chevron fire department includes a full-time staff of approximately 18, with a three-person crew on duty at the refinery at all times. In addition, a Fire Prevention Officer, a Training Officer, a Relief Battalion Chief, a Special Assignment Fire Inspector and the Fire Chief are on duty Monday through Friday during the day shift. To supplement the Fire Department an Emergency Response Team consisting of personnel from the Operations Department are trained and available to assist with any fire emergencies.

The refinery is also served by the City of El Segundo Fire Department, which maintains two fire stations within the city and, as mentioned above, cooperates in emergency response planning with industrial facilities in the community, such as the Chevron refinery.

The refinery notifies the City of El Segundo Fire Department when an incident occurs at the refinery that might affect the environment or pose a life safety hazard to employees or the public. The refinery also maintains a mutual aid agreement with other Los Angeles area refineries, under which Chevron can request the assistance of other refineries' resources to assist in managing and controlling a major incident.

The proposed project during both construction and operation will not substantially change the load on the refinery's fire fighting and emergency response resources and would not be expected to create the need for additional fire protection services or resources by Chevron or the City of El Segundo.

XIV.b) The refinery has an on-site security department that provides protective services for people and property within the refinery bounds. Because the proposed project will not change refinery staffing or substantially expand the existing facilities within the refinery, there is expected to be no increased need for new or expanded police protection.

XIV.c) - e) The proposed project will not require additional operational staffing at the refinery. Thus, there will be no increase in local population, and no impacts are expected to schools, parks, or other public facilities as a result of the proposed project.

Conclusion

The proposed project is not expected to result in significant adverse impacts on public services. Thus, public services will not be discussed further in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact

XV. RECREATION.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑
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?	☐	☐	☑

XV.a) & b) There will be no changes in population size or densities resulting from the proposed project and, thus, implementation of the proposed project will not cause an increase in the use of existing neighborhood and regional parks or other recreational facilities. Further, the proposed project will be located at an established industrial facility and will have no effect on existing nearby parks or other recreational facilities. The proposed project also will not require the construction or expansion of recreational facilities and, thus, will not have an adverse physical effect on the environment.

Conclusion

The proposed project is not expected to result in significant adverse recreation impacts. Thus, recreation issues will not be further discussed in the Draft EIR.

		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?	☑	☐	☐
b)	Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

XVI.a) Solid waste generation and disposal would increase during construction of the proposed project. The wastes would most likely consist of concrete, asphalt, wood, and metal debris, and normal construction debris such as cardboard, paper, and plastic. The solid waste generated during construction would be disposed in an appropriately classified disposal facility by a licensed contractor. Potential impacts of construction phase solid waste disposal will be evaluated in the Draft EIR.

If contaminated soils are encountered during the project construction, the soils would be removed for proper disposal in accordance with SCAQMD's Rule 1166 and requirements of other agencies such as the Regional Water Quality Control Board. The potential occurrence of contaminated soils and the removal procedure will be evaluated in the Draft EIR.

The proposed new and modified equipment associated with the proposed project will perform the same functions as the existing equipment without substantially changing the scale of operations at the refinery. Solid or hazardous waste generation rates are not expected to increase substantially as a result of proposed project operation. However, potential impacts of project solid and hazardous waste disposal on available waste disposal facilities will be addressed in the Draft EIR.

XVI.b) Wastes generated by the construction and operation of the project would be properly managed and/or disposed of in compliance with federal, state, and local statutes and regulations related to solid and hazardous waste management. No significant adverse impacts related to proper management of solid/hazardous waste are expected as a result of the proposed project.

Conclusion

Proposed project solid and/or hazardous waste generation has the potential for significant adverse impacts on disposal facilities. Solid/hazardous waste impacts will be addressed in the Draft EIR.

		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)?	☑	☐	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☑	☐	☐
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?	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
e)	Result in inadequate emergency access?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☑	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

XVII.a) & b) Construction of the proposed project will generate additional traffic from construction personnel commuting (an estimated peak construction work force of 500 workers), as well as the transportation of construction materials and equipment to the refinery. The proposed project will not increase operational phase employment at the refinery or change the level of materials deliveries during operation, but the proposed project's increased coke production is expected to lead to approximately 20 additional off-site truck shipments of petroleum coke per day. The additional traffic volumes associated with the proposed project potentially would create or increase congestion at intersections or increase the volume to capacity ratio on roadways in the project vicinity, and lead to a change in the level of service at intersections in the vicinity of the project sites. This issue will be addressed in the Draft EIR.

XVII.c) The proposed project includes modifications and additions to existing facilities. The new and modified refinery equipment will be generally similar in height and appearance to existing refinery structures; although the proposed new Main Fractionator at the Coker will be approximately 52 feet taller than the existing equipment it will replace (170 feet versus 118 feet). There are a number of existing refinery structures (a coke drum and the FCC Reactor) within approximately 350 feet of the new Main Fractionator that are both over 330 feet tall, which is twice the height of the proposed new column. Thus, the height of the proposed new equipment would not be expected to result in a change to air traffic patterns because of the distance between the refinery and the nearest airport (Los Angeles International Airport), which is located approximately two miles north of the refinery.

XVII.d) The proposed project would take place at an existing refinery and does not include off-site roadway modifications. Therefore, the proposed project would not result in hazards due to road design or incompatible uses.

XVII.e) The project would take place at an existing facility, and no changes are expected to the existing emergency access at the refinery. Therefore, the proposed project is not expected to adversely affect emergency access.

XVII.f) Additional parking will be required for the additional construction employees. However, it is likely that the construction workers will park within the existing refinery boundaries, in which case the project would not result in inadequate offsite parking.

XVII.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).

Conclusion

The traffic impacts associated with the increased automobile and truck traffic volumes associated with the proposed project are potentially significant and will be evaluated in the Draft EIR. The impacts of the proposed project on other transportation-related areas are expected to be less than significant and will not be further discussed in the Draft EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII.	**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?	☐	☑	☐
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)	☑	☐	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐

XVIII.a) The proposed project is not expected to have adverse impacts on special-status animal and plant species, on other biological resources (riparian habitats, wetlands, or migratory corridors); or conflicts with ordinances or conservation plans.

XVIII.b) The proposed project may cause cumulative impacts depending on other projects that are likely to occur concurrently with or subsequent to the proposed project. The Draft EIR will evaluate potential cumulative impacts for project-specific impacts that are determined to be significant.

XVIII.c) The proposed project may cause adverse effects on human beings. Air quality, hazards and hazardous materials, hydrology and water quality, noise, solid/hazardous waste, and transportation/traffic may be adversely affected as a result of the proposed project. These environmental issues will be evaluated in the Draft EIR.

Conclusion

The Draft EIR will evaluate potential project-specific and cumulative impacts to: air quality, hazards and hazardous materials, hydrology and water quality, noise, solid /hazardous waste, and transportation/traffic.

References

Chevron Products Company. 2005. Butterfly Facts, downloaded from http://www.chevron.com/products on July 1.

Chevron Products Company. 2005b. Environmental Performance, El Segundo Refinery, Natural Resources, downloaded from http://www.chevron.com/products on July 1.

City of Los Angeles. 2001. City of Los Angeles Conservation Element. September.

Santa Clara Valley Transportation Authority/Federal Transit Administration. 2004. Draft EIS/EIR Silicon Valley Transit Corridor Project. April.

South Coast Air Quality Management District.2001. Final Environmental Impact Report, Chevron –El Segundo California Resources Boards (CARB) Phase 3 Clean Fuels Project. November.

South Coast Air Quality Management District. 2003. Final 2003 Air Quality Management Plan.

APPENDIX A

ARCHAEOLOGICAL AND HISTORICAL RECORDS SEARCH RESULTS FOR THE CHEVRON EL SEGUNDO REFINERY