

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Addendum to the Final Environmental Impact Report for the

Chevron Products Company - El Segundo Refinery Heavy Crude Project

SCH. No. 2005091152

[Final EIR Certified August 9, 2006]

May 2007

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1.0 INTRODUCTION

The Chevron Products Company - El Segundo Refinery Heavy Crude Project involves modifications to the Chevron Products Company (Chevron) El Segundo Refinery to enable 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 project will also reduce sulfur dioxide (SO₂) emissions from refinery fuel gas combustion.

The refinery processes crude oil to produce motor fuels and other saleable petroleum products. The refinery processes both heavy and light crude oils. Heavy crude oils are more dense and viscous than light crude oils and generally produce smaller amounts of motor fuels per barrel than light crude oils. Because most new crude oil discoveries in the world are heavier than historic crude oil supplies, Chevron proposed modifications to the refinery to maintain or slightly increase its current production levels of saleable petroleum products by being able to process more heavy crude oil and less light crude oil than it currently processes. To process more heavy crude oil, the refinery operators proposed modifications to the No. 4 Crude Distillation Unit and the Delayed Coking Unit (Coker). Chevron also proposed modifications to the No. 6 H₂S Plant to improve the removal efficiency of sulfur compounds from refinery fuel gas to assist the refinery in complying with South Coast Air Quality Management District (SCAQMD) Regulation XX - Regional Clean Air Incentives Market (RECLAIM), and to increase the reliability of the removal process.

As lead agency, the SCAQMD, prepared the August 2006 Final Environmental Impact Report for the Chevron Products Company - El Segundo Refinery Heavy Crude Project [SCAQMD, SCH No. 2005091152] (August 2006 Final EIR), which was certified in August 2006, to evaluate the potential environmental impacts associated with the proposed modifications to the El Segundo Refinery. Subsequent to certifying the August 2006 Final EIR, Chevron proposed a change to the approved project in December 2006. Specifically, Chevron determined that it would not be feasible to continue to implement Mitigation Measure AQ-1, which required the use of PuriNOx water-emulsified diesel fuel in construction equipment during construction of the Heavy Crude Project, after December 2006. In order to compensate for the emission reductions that would not be achieved when PuriNOx could no longer be obtained, Chevron proposed to revise Mitigation Measure AQ-1 to require it to cease operation of various refinery process units during the peak construction periods, which would offset project construction emissions by eliminating air pollutant emissions from those process units during peak construction. An Addendum (December 2006) was prepared in accordance with the California Environmental Quality Act (CEQA) because the project would not result in new significant adverse impacts or increase the severity of significant adverse impacts previously identified in the August 2006 Final EIR.

Chevron is now proposing a modification that requires changing the location for construction worker parking during construction of the project analyzed in the August 2006 Final EIR. Specifically, Chevron has determined that it will not be feasible to continue to use the off-site construction worker parking location at Dockweiler State Beach, which was specified in the Project Description in the August 2006 Final EIR, after April 2007. Chevron specified specific routes to

be followed by construction workers when traveling to and from the Dockweiler State Beach parking facility, and has been transporting construction works between the parking facility and the refinery by bus, to avoid potential impacts to the traffic system in the vicinity of the refinery. Chevron's permit to use the parking facility during construction of the proposed project, which was issued by the Los Angeles County Department of Beaches and Harbors (LCDBH), expired on March 31, 2007. Although the permit to use the parking facility has been renewed, LCDBH included conditions in the renewal that do not allow Chevron to use the facility during weekends during the summer and on several weekdays, beginning in May 2007. Because construction of the proposed project has and will continue to occur five to six days per week through March 2008, construction worker parking is needed five to six days per week every week during the construction period. Therefore, Chevron will not be able to continue to use the current parking facility after April 2007.

Chevron is proposing to use a different off-site parking location, located near the intersection of Sepulveda Boulevard and Grand Avenue in the City of El Segundo, for construction worker parking beginning in May 2007. Chevron is proposing to specify specific routes to be followed by construction workers traveling to and from this different facility, and to continue to transport workers between the parking facility and the refinery by buses, to minimize impacts on the surrounding traffic system.

Chevron has also rescheduled a turnaround for the No. 4 Crude Unit, which is a time when the unit is removed from service for maintenance activities. The No. 4 Crude Unit turnaround was originally scheduled for late-March 2007 through early-May 2007. It is now scheduled for late-June 2007 through early-August 2007. This reschedule does not affect the peak daily emissions calculated in the August 2006 Final EIR or the revised mitigation measure AQ-1 analyzed in the the December 2006 Addendum, which is dependent on the shutdown of equipment during the turnaround, because the construction activity will now take place during the new turnaround schedule.

Chevron is not proposing any changes to the Heavy Crude Project refinery modifications evaluated in the August 2006 Final EIR and in the December 2006 Addendum, nor to the construction requirements or schedules.

The details of the proposed changes to the construction worker parking location are explained in Section 5.3 of this Addendum.

The SCAQMD has evaluated the proposed changes to the construction worker parking location (as detailed in Section 5.3 of this Addendum) and determined that the proposed modification to the parking location does not create any new significant adverse environmental impacts or make substantially worse any existing significant adverse environmental impacts, and only minor additions or changes are necessary to make the previous August 2006 Final EIR and the December 2006 Addendum adequate for the revised project. Therefore, when considering the effects of the current proposed project modification, the SCAQMD has concluded that an Addendum is the appropriate document to be prepared in accordance with CEQA in order to evaluate potential environmental impacts associated with the current proposed project modification.

2.0 BASIS FOR DECISION TO PREPARE AN ADDENDUM

The SCAQMD was the lead agency responsible for preparing the August 2006 Final EIR and the December 2006 Addendum and is the public agency that has the primary responsibility for approving the current proposed project modification. Therefore, the SCAQMD is the appropriate lead agency to evaluate the potential environmental effects of the current proposed project modification that is the subject of this Addendum.

Based on the analysis of the current proposed project modification that follows in Sections 6.0 and 7.0, the SCAQMD has concluded that the only environmental areas affected by the current proposed project modification are air quality and transportation/traffic during construction.

The August 2006 Final EIR and the December 2006 Addendum identified significant adverse project air quality impacts during construction. The current proposed project modification does not change this conclusion: significant adverse air quality impacts of the Heavy Crude Project would still occur during construction under the proposed change to the off-site construction worker parking location. However, as shown in Subsection 6.3.1 of this Addendum, the current proposed project modification, which is the revision to the off-site parking location, will not result in new significant adverse air quality impacts or increase the severity of significant adverse air quality impacts previously identified in the August 2006 Final EIR and the December 2006 Addendum.

The construction air quality impacts analysis for the current proposed modification to the off-site construction worker parking location includes a reduction in the distance traveled by both the buses transporting construction workers between the parking facility and the refinery and by the construction workers traveling to and from the parking facility. Because the distances traveled will be less, emissions from the buses and from the construction worker commuting vehicles will also be less than the emissions in the August 2006 Final EIR and the December 2006 Addendum. Therefore, peak daily mitigated CO, VOC, NO_x, SO_x and PM10 construction emissions associated with the current proposed revision to the off-site construction worker parking location are less than the peak daily construction emissions for the project shown in the August 2006 Final EIR and in the December 2006 Addendum. Thus, no new significant adverse air quality impacts from construction activities are expected from the current proposed project modification, and existing significant adverse impacts previously identified in the August 2006 Final EIR and the December 2006 Addendum will not be made substantially worse.

The August 2006 Final EIR and the December 2006 Addendum concluded that transportation and traffic would not be significantly adversely affected by the proposed project. As shown in Section 6.3.2 of this Addendum, the current proposed modification will also not cause significant adverse impacts to transportation and traffic.

The August 2006 Final EIR analyzed the transportation and traffic impacts from the peak construction worker commuting traffic and construction delivery truck traffic for the proposed project. The analysis in the August 2006 Final EIR indicated that construction worker commuting traffic would not cause significant adverse traffic impacts on the roadways and intersections affected by the construction worker commuting trips. The analysis also indicated that the anticipated delivery truck trips during construction would not cause significant adverse traffic impacts on the intersections and roadways in the vicinity of the refinery.

The construction traffic impacts analysis for the proposed change in the construction worker off-site parking location includes changes to the routes that will be followed by the construction workers traveling to and from the new parking location. The results indicate that peak construction worker commuting traffic will not cause significant adverse impacts on the roadways and intersections that are on the routes that will be traveled to the new parking location. The proposed change in the off-site construction worker parking location will not change the delivery truck traffic that was analyzed in the August 2006 Final EIR. Because the analysis in the August 2006 Final EIR indicated that construction delivery truck traffic would not cause significant adverse traffic impacts, the proposed change in the construction worker parking location will also not cause significant adverse traffic impacts from construction delivery truck traffic.

Therefore, it can be concluded that the current proposed project modification does not create new significant adverse impacts or increase the severity of significant impacts previously identified in the August 2006 Final EIR and the December 2006 Addendum. As a result, pursuant to CEQA Guidelines §15164(a), this document constitutes an Addendum to the August 2006 Final EIR for the Chevron Products Company - El Segundo Refinery Heavy Crude Project. Section 6.0 of this Addendum further explains the basis for the determination to prepare an Addendum.

CEQA Guidelines §15164(a) allows a lead agency to prepare an Addendum to a Final EIR if all of the following conditions are met.

- Substantial changes with respect to the circumstances under which the project is undertaken do not require major revisions to the previous Final EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
- No new information becomes available which shows new significant effects or significant effects substantially more severe than previously discussed.
- The project proponent agrees to adopt mitigation measures which are different from those analyzed in the previous EIR that would substantially reduce one or more significant effects on the environment.
- Only minor technical changes or additions are necessary to make the Final EIR under consideration adequate under CEQA.
- The changes to the Final EIR made by the Addendum do not raise important new issues about the significant effects on the environment.

The current proposed project modification will result in no new significant adverse effects or substantially increased severity of significant effects previously identified. Further, the current proposed project modification consists of only minor changes to the August 2006 Final EIR that do not raise important new issues about the previously analyzed significant environmental effects. Thus, the current proposed project modification meets all of the conditions in the CEQA Guidelines for the preparation of an Addendum.

3.0 BACKGROUND CEQA DOCUMENTS

The activities associated with the Chevron Products Company - El Segundo Refinery Heavy Crude Project were evaluated sequentially in the following CEQA documents. Summaries of each of these CEQA documents are provided below. The August 2006 Final EIR and the December 2006 Addendum can be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or they can be downloaded from the SCAQMD's CEQA Webpages at the following Internet addresses:

http://www.aqmd.gov/ceqa/documents/2006/nonaqmd/chevron/chev_feir.html

<http://www.aqmd.gov/ceqa/2006/nonaqmd2006.html>

Notice of Preparation and Initial Study for the Draft Environmental Impact Report For Proposed Chevron Products Company - El Segundo Refinery Heavy Crude Project (SCAQMD, September 2005): A Notice of Preparation (NOP) and Initial Study for the Chevron - El Segundo Refinery Heavy Crude Project were released for a 30-day public review and comment period on September 29, 2005. The Initial Study included a project description, project location, an environmental checklist, and a discussion of potential adverse environmental impacts. The NOP solicited input from public agencies and other interested parties on the scope and content of the environmental information to be evaluated in the Draft EIR.

Draft Environmental Impact Report for Chevron Products Company - El Segundo Refinery Heavy Crude Project (SCAQMD, April 2006): The Draft EIR was released for a 45-day public review and comment period on April 25, 2006. The Draft EIR included a comprehensive project description, a description of the existing environmental setting that could be adversely affected by the proposed project, analysis of potential adverse environmental impacts (including cumulative impacts), mitigation measures, project alternatives, and all other topics required by CEQA. The Draft EIR also included a copy of the NOP and Initial Study, copies of comment letters received on the NOP and Initial Study, and responses to all comment letters received on the NOP and Initial Study. The Draft EIR concluded that the El Segundo Refinery Heavy Crude Project may generate significant adverse impacts, following mitigation, in two environmental areas: air quality and hazards.

Final Environmental Impact Report for Chevron Products Company - El Segundo Refinery Heavy Crude Project (SCAQMD, August 2006): The Final EIR was prepared by revising the Draft EIR to incorporate applicable updated information and to respond to comments received on the Draft EIR. The Final EIR contained comment letters and responses to comments received on the Draft EIR. The changes included in the Final EIR did not constitute significant new information relating to the environmental analysis or mitigation measures. The Final EIR was certified on August 9, 2006.

Addendum to the Final Environmental Impact Report for Chevron Products Company - El Segundo Refinery Heavy Crude Project (SCAQMD, December 2006): Subsequent to certifying the August 2006 Final EIR, Chevron proposed a change to the approved project in December 2006. The SCAQMD reviewed the proposed modification and determined that an Addendum was the appropriate document to be prepared in accordance with CEQA because the project would not result in new significant adverse impacts or increase the severity of significant adverse impacts

previously identified in the August 2006 Final EIR. During construction of the proposed project analyzed in the August 2006 Final EIR, Chevron proposed a modification that required changing a mitigation measure specified in the August 2006 Final EIR. Specifically, Chevron determined that it would not be feasible to continue to implement Mitigation Measure AQ-1, which required the use of PuriNOx water-emulsified diesel fuel in construction equipment during construction of the Heavy Crude Project, after December 2006. In order to compensate for the emission reductions that would not be achieved when PuriNOx could no longer be obtained, Chevron proposed to revise Mitigation Measure AQ-1. Chevron proposed to discontinue use of PuriNOx after December 2006 and to cease operation of various refinery process units during the peak construction periods, which would offset project construction emissions by eliminating air pollutant emissions from those process units during peak construction. The Addendum was certified on December 15, 2006.

4.0 PROJECT LOCATION

The current proposed project modification applies only during construction of modifications to the No. 4 Crude Unit, the Coker and the No. 6 H₂S Plant at Chevron's El Segundo Refinery; no changes are planned for other process units or support facilities at the refinery. The location of the refinery within the overall southern California region is shown in Figure 4-1. The refinery is located at 324 West El Segundo Boulevard in the City of El Segundo, California, as shown in Figure 4-2. The 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. All proposed modifications will occur within the confines of the existing refinery. The locations of the No. 4 Crude Unit, the Coker and the No. 6 H₂S Plant within the refinery are shown in Figure 4-3.

5.0 PROJECT DESCRIPTION

This section presents a description of the Chevron Heavy Crude Project as evaluated in the August 2006 Final EIR, as well as a description of the current proposed project modification. Although the current proposed project modification only affects the construction worker parking location during the construction phase, a full description of the entire project analyzed in the August 2006 Final EIR and the December 2006 Addendum is provided to present a clear understanding of the previously proposed project as compared with the current proposed modification to the project.

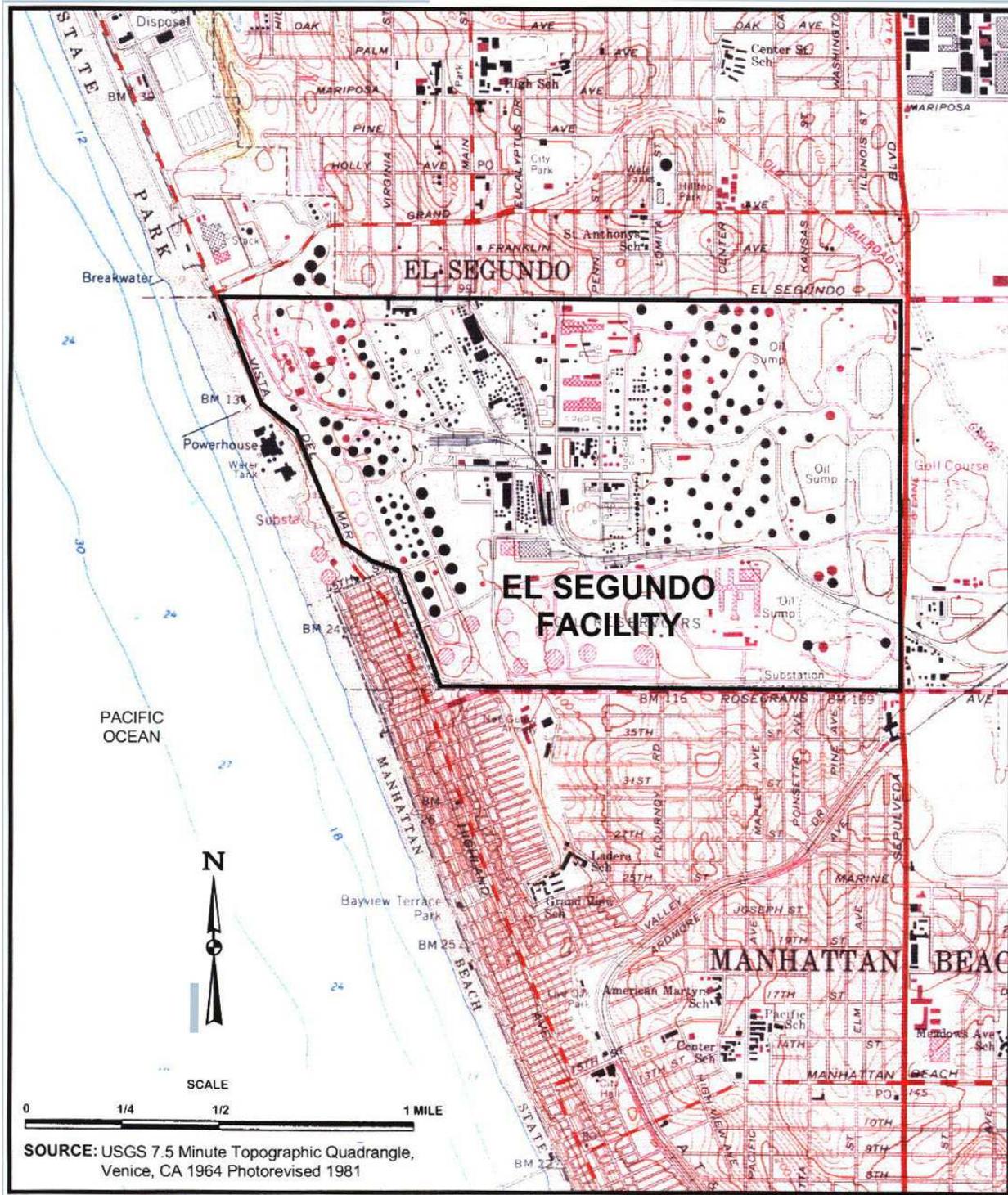
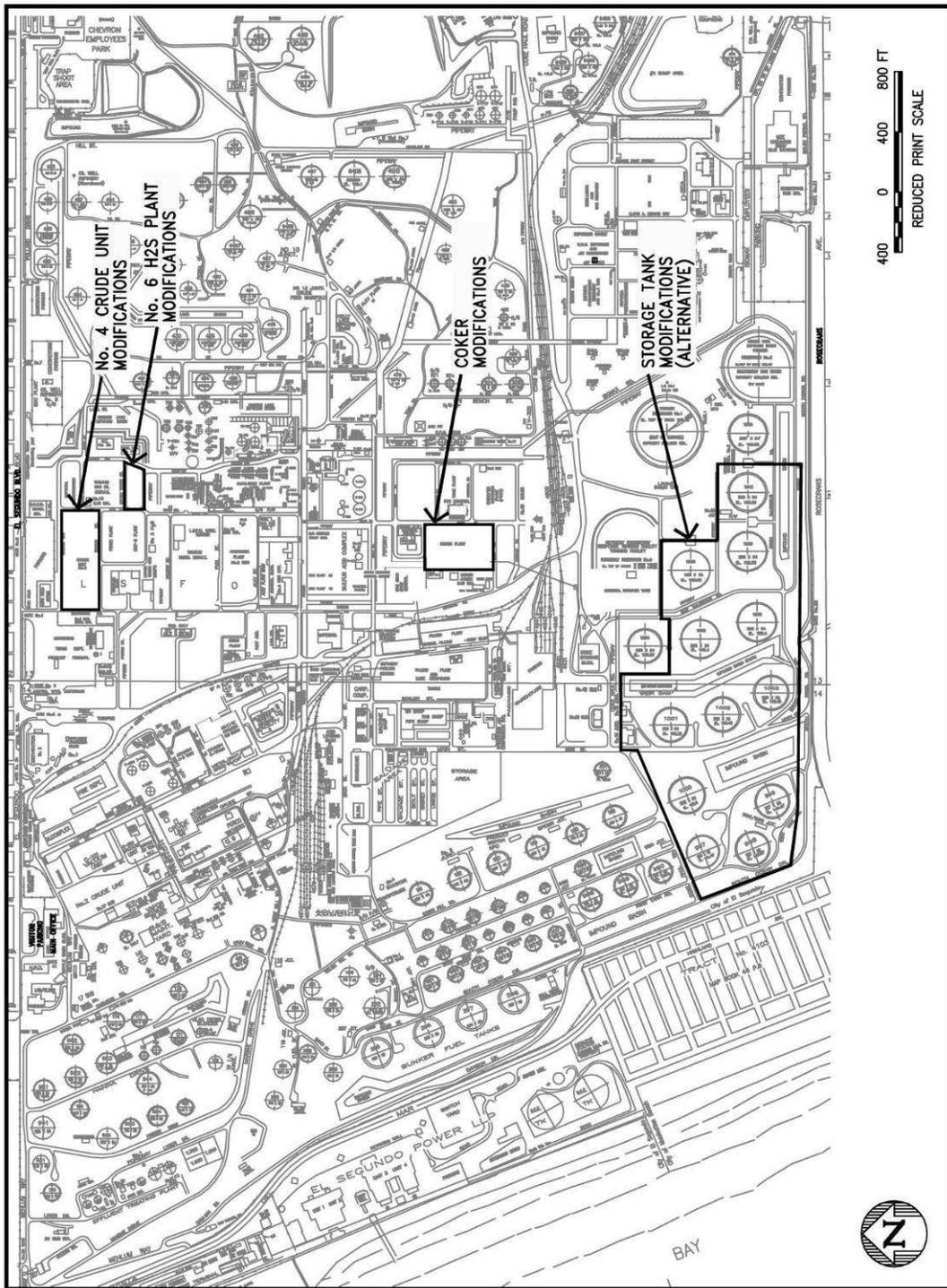


Figure 4-2 Site Location Map Chevron El Segundo Refinery (August 2006 Final EIR Figure 2-2)



**Figure 4-3 Site Plan Showing Locations of Project Components
(August 2006 Final EIR Figure 2-4)**

5.1 Project as Analyzed in August 2006 Final EIR

Processing more heavy crude oil will increase the quantity of vacuum residuum produced from each barrel of crude oil. The No. 4 Crude Unit would not be able to handle the increase, so Chevron proposed modifications to the No. 4 Crude Unit 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, while resulting in a reduction in the amount of light crude oil processed.

Proposed modifications to the No. 4 Crude Unit included modifying internal components of the atmospheric and vacuum distillation columns to improve distillation efficiency; replace steam ejectors on the vacuum distillation column to increase column production capacity; modify and add new heat exchangers to increase heat recovery and reduce pressure drop; modify pumps to handle higher viscosity material; replace piping with larger diameter pipes to reduce pressure drop; and install additional automated controls for existing equipment to improve emergency response and normal operating efficiency.

The current annual average vacuum residuum feed capacity of the Coker is 60 thousand barrels per operating day (MBPOD). Chevron proposed modifications to increase the annual average capacity of the Coker to 75 MBPOD to accommodate the increase in vacuum residuum production when more heavy crude oil is processed. Petroleum coke production will increase by 510 tons per day, from an annual average of 3,950 tons per day to 4,460 tons per day. Approximately 20 additional truck trips per day are required to export the increased quantities of petroleum coke from the refinery. The production of light products by the Coker will also increase. Proposed modifications to the Coker included the installation of new heat exchangers to increase heat transfer; installation of a new cooling water supply and return system from Cooling Tower No. 9 to the Coker to increase coke-drum cooling capacity; replacement of an existing depropanizer with a larger depropanizer to increase propane removal capacity; replacement of the Coker Main Fractionator column with a larger column to increase light-product separation capacity; installation of new pumps and upgrades to existing pumps to increase pumping capacity; upgrades to the gas compression equipment at the Coker to increase capacity; modifications to the coke drums and coke drilling systems to reduce the cycle time from 15 hours to 12 hours; and installation of additional automated controls for existing equipment to improve emergency response and normal operating efficiency. Chevron proposed to install a control device to reduce emissions when the coke drums are depressurized before they are opened.

The current capacity of the petroleum coke conveying system is adequate to accommodate the proposed increase in petroleum coke production, and Chevron did not propose to increase the conveying system's capacity. Chevron did, however, propose 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.

Chevron proposed to install a new diethanol amine (DEA) Regenerator in the No. 6 H₂S Plant, which will regenerate the rich DEA from the No. 6 H₂S Plant and eliminate the need to send the rich DEA to the No. 5 H₂S Plant for regeneration, as is currently done. The hydrogen sulfide (H₂S)

produced by the regenerator will be processed by the refinery's Sulfur Recovery Units to remove the H₂S and convert it to elemental sulfur, which is subsequently exported from the refinery for sale. Chevron proposed to install a new Relief Caustic Scrubber in the No. 6 H₂S Plant to remove H₂S from the acid gas produced by the proposed new DEA regenerator in case of an emergency that would prevent the Sulfur Recovery Units from processing the acid gas. Chevron also proposed to install a new Jet Wash Column to absorb any remaining carbonyl sulfide (COS) from the process gas stream leaving the Merox section of the No. 6 H₂S Plant. The proposed Jet Wash column will use circulating jet or diesel fuel to absorb COS from the gas stream.

The overall construction period for the proposed project is expected to continue into March 2008. Peak overall construction employment is anticipated to be 694 workers during October 2007, and average construction employment over the entire 22-month construction period is estimated at about 242 workers.

During most of the construction period, construction will take place 10 hours per day, from 6:30 a.m. to 5:00 p.m., five days per week, Monday through Friday. Turnarounds, which are times when refinery equipment is removed from service for maintenance activities, were scheduled for the No. 4 Crude Unit from late-March 2007 through early-May 2007 and for the Coker from mid-September 2007 through November 2007. A substantial amount of the construction for the proposed modifications to the No. 4 Crude Unit and the Coker, such as replacement of internal components, can only take place during these turnarounds when the units are out of service. Therefore, to minimize the amount of time that the units are out of service, construction during the turnarounds will 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.

5.2 Project as Analyzed in December 2006 Addendum

Subsequent to certifying the August 2006 Final EIR, Chevron proposed a change to the approved project in December 2006. The proposed modification involved changes to one air quality construction mitigation measure, and did not modify any other aspects of the construction or operation of the proposed project as analyzed in the August 2006 Final EIR.

The proposed modification involved changes to a mitigation measure specified in the August 2006 Final EIR. Specifically, Chevron determined that it would not be feasible to continue to implement Mitigation Measure AQ-1 after December 2006. AQ-1 required the use of PuriNOx water-emulsified diesel fuel in construction equipment during construction of the Heavy Crude Project after December 2006. Lubrizol, the producer of PuriNOx, discontinued production of PuriNOx after December 2006. Chevron could not acquire and store PuriNOx before the end of 2006 for use during the entire construction period, which is anticipated to end in early 2008, because PuriNOx degrades with time and cannot be used after approximately one month of storage. Additionally, the additives blended with diesel fuel and water to produce PuriNOx degrade after approximately three months of storage. Therefore, Chevron could not acquire the additives before the end of 2006 and blend them with water and diesel fuel for use during the remainder of the construction period.

The use of PuriNOx as required by Mitigation Measure AQ-1 was estimated to reduce emissions of NO_x and PM₁₀ from construction equipment exhaust by 14 percent and 62.9 percent, respectively. In order to compensate for the emission reductions that would not be achieved when PuriNOx was

no longer used after December 2006, Chevron proposed to revise mitigation measure AQ-1. The revised mitigation measure requires Chevron to cease operation of various refinery process units, which will eliminate air pollutant emissions from those process units, during the peak construction periods. These peak construction periods will occur during the No. 4 Crude Unit turnaround, which will occur from late-March 2007 through early May 2007, and during the Coker turnaround, which will occur from mid-September 2007 through November 2007.

Mitigation Measure AQ-1 in the August 2006 Final EIR (page 4-35) is written as follows:

AQ-1) Diesel-powered construction equipment will be fueled with emulsified diesel fuel throughout construction of the proposed project.

The California Air Resources Board has established an interim procedure for verification of emission reductions for alternative diesel fuels. This procedure has been used to verify emission reductions from the use of four alternative diesel fuels: PuriNOx diesel fuel developed by Lubrizol Corporation, Aquazole fuel developed by TotalFinaElf, Clean Fuels Technology's emulsified diesel fuel, and O₂ Diesel Fuel developed by O₂ Diesel, Inc. Specifically, Lubrizol's water-emulsified PuriNOx diesel fuel has been verified to reduce NO_x emissions by 14 percent and PM10 emissions by 62.9 percent (ARB, 2001).

Chevron supplies PuriNOx to customers in the South Coast Air Basin from its Montebello distribution terminal. Chevron will ensure that the quantities of PuriNOx required for construction equipment for the proposed project will be available.

Prior to the start of construction for the proposed project, Chevron will verify that the construction equipment operates properly when fueled with PuriNOx diesel fuel. Minor modifications to the equipment will be made, if necessary, to enable it to operate properly using PuriNOx diesel fuel.

Mitigation measure AQ-1 was proposed to be revised to read as follows:

AQ-1) Diesel-powered construction equipment will be fueled with emulsified diesel fuel during construction of the proposed project through December 2006.

The California Air Resources Board has established an interim procedure for verification of emission reductions for alternative diesel fuels. This procedure has been used to provide interim verification for emission reductions from the use of four alternative diesel fuels: PuriNOx diesel fuel developed by Lubrizol Corporation, Aquazole fuel developed by TotalFinaElf, Clean Fuels Technology's emulsified diesel fuel, and O₂ Diesel Fuel developed by O₂ Diesel, Inc. Specifically, Lubrizol's water-emulsified PuriNOx diesel fuel has been verified to reduce NO_x emissions by 14 percent and PM10 emissions by 62.9 percent (ARB, 2001).

Chevron supplies PuriNOx to customers in the South Coast Air Basin from its Montebello distribution terminal. Chevron will ensure that the quantities of PuriNOx required for construction equipment for the proposed project will be available through December 2006.

Prior to the start of construction for the proposed project, Chevron will verify that the construction equipment operates properly when fueled with PuriNOx diesel fuel. Minor modifications to the equipment will be made, if necessary, to enable it to operate properly using PuriNOx diesel fuel. Chevron will use PuriNOx through the end of December 2006.

The following refinery equipment will not be operated during the period of the No. 4 Crude Unit turnaround (late-March 2007 through early-May 2007):

- *No. 4 Crude Unit furnaces F-1100 and F-1160*
- *No. 3 Naphtha Hydrotreater (NHT3) furnaces F-1000 and F-1010*
- *No. 2 Naphtha Hydrotreater (NHT2) furnace F-1210*
- *Steam Methane Reformer (SMR) furnace F-1330*
- *Vacuum Gas Oil Hydrotreater (VGO) furnaces F-1610 and F-1660*
- *Vacuum Resid Desulfurizer (VRDS) furnaces F-1510 and F-1520*

The following refinery equipment will not be operated during the period of the Coker turnaround (mid-September 2007 through November 2007):

- *No. 3 Caustic Treating Plant*
- *Coker furnaces F-501A, F-501B and F-501C*
- *Coke drums*

These revisions to Mitigation Measure AQ-1 did not change the proposed modifications to the refinery that were analyzed in the August 2006 Final EIR, nor did they change the activities, equipment and personnel required to construct the proposed modifications or the manner in which the proposed modifications will be operated.

As stated in the second paragraph of Mitigation Measure AQ-1, interim verification for emission reductions from the use of four alternative diesel fuels has been provided. However, only one of these four alternative diesel fuels, O₂ Diesel Fuel developed by O₂ Diesel, Inc., was commercially available after December 2006. O₂ Diesel Fuel has been verified to reduce NO_x emissions by 1.6 percent (ARB, 2003), which is substantially less than the 14 percent reduction achieved by the use of PuriNOx, and PM₁₀ emissions by 20 percent (ARB, 2003), which is also substantially less than the 62.9 percent reduction achieved by the use of PuriNOx. Because the emission reductions that would be achieved by the use of O₂ Diesel Fuel in construction equipment after December 2006 would be less than would have been achieved by the use of PuriNOx if it were still available, Chevron did not propose to revise Mitigation Measure AQ-1 to require the use of O₂ Diesel Fuel after December 2006.

5.3 Current Proposed Project Modification

The current proposed modification involves changes to the location for construction worker parking and does not modify any other aspects of the construction or operation of the proposed project as analyzed in the August 2006 Final EIR and in the December 2006 Addendum.

Chevron has determined that it will not be feasible to continue to use the off-site construction worker parking location at Dockweiler State Beach, which was specified in the Project Description in the August 2006 Final EIR, after April 2007. Chevron specified specific routes to be followed by construction workers when traveling to and from the Dockweiler State Beach parking facility, and has been transporting construction works between the parking facility and the refinery by bus, to avoid potential impacts to the traffic system in the vicinity of the refinery. Chevron's permit to use the parking facility during construction of the proposed project, which was issued by the Los Angeles County Department of Beaches and Harbors (LCDBH), expired on March 31, 2007. Although the permit to use the parking facility has been renewed, LCDBH included conditions in the renewal that do not allow Chevron to use the facility during weekends during the summer and on several weekdays, beginning in May 2007. Because construction of the proposed project has and will continue to occur five to six days per week through March 2008, construction worker parking is needed five to six days per week every week during the construction period. Therefore, Chevron will not be able to continue to use the current parking facility after April 2007.

Chevron is proposing to use a different off-site parking location, located near the intersection of Sepulveda Boulevard and Grand Avenue in the City of El Segundo, for construction worker parking beginning in May 2007. Chevron is proposing to specify specific routes to be followed by construction workers traveling to and from this different facility, and to continue to transport workers by bus between the parking facility and the refinery, to minimize impacts on the surrounding traffic system.

The locations of the off-site construction worker parking facility specified in the Project Description in the August 2006 Final EIR and the current proposed parking location are shown in Figure 5-1. Construction workers commuting to and from the parking facility specified in the August 2006 Final EIR access the parking facility by traveling on the Interstate 105 (I-105) freeway and West Imperial Highway to Vista Del Mar, which avoids traveling on surface streets other than West Imperial Highway and Vista Del Mar. The same route is used to leave the refinery vicinity (Vista del Mar to West Imperial Highway to the I-105 freeway). Chevron has specified in construction contracts for the proposed project that construction workers are to use this route. Additionally, to ensure that construction workers comply with requirement to use this travel route, Chevron has implemented measures such as: 1) posting signs in the parking lot reminding workers of the travel route requirement; 2) reminding the workers with fliers and through announcements by shuttle bus drivers; and 3) occasional visual audits of worker compliance.



Figure 5-1 Off-Site Construction Worker Parking Locations from August 2006 Final EIR and for Current Proposed Modification

The routes to be followed by the construction workers to and from the currently proposed parking facility are shown in Figure 5-2. To access the currently proposed parking facility, project construction employees will be instructed to use the I-105 freeway, exit at the Nash Street exit (southbound), turn right on Mariposa Avenue to Sepulveda Boulevard, turn left on Sepulveda Boulevard, and turn left on Grand Avenue in order to enter the parking facility. To leave the currently proposed parking facility, construction workers will be directed to exit the facility by traveling east on Grand Avenue, then north on Continental Boulevard, east on Mariposa Avenue, north on Douglass Street, then left on Atwood Way to the on-ramp to the eastbound I-105 freeway. Chevron will specify in construction contracts for the proposed project that construction workers are to use this route. Additionally, to ensure that construction workers comply with requirement to use this travel route, Chevron will continue to implement measures such as: 1) posting signs in the parking facility reminding workers of the travel route requirement; 2) reminding the workers with fliers and through announcements by shuttle bus drivers; and 3) occasional visual audits of worker compliance.

This revision to the construction worker parking location does not change the proposed modifications to the refinery that were analyzed in the August 2006 Final EIR and the December 2006 Addendum, nor do they change the activities, equipment and personnel required to construct the proposed modifications or the manner in which the proposed modifications will be operated.

Chevron has also rescheduled the turnaround for the No. 4 Crude Unit. The turnaround is now scheduled to occur from late-June 2007 until early-August 2007.

As shown in the following discussion, the SCAQMD staff has evaluated the proposed change to the construction worker parking location and determined that the current proposed project modification does not create any new significant adverse environmental impacts or make substantially worse any existing significant adverse environmental impacts that were previously identified in the August 2006 Final EIR and the December 2006 Addendum.

6.0 IMPACT ANALYSIS

This section presents a description of the impact analysis contained in the August 2006 Final EIR and the December 2006 Addendum, as well as the analysis of the impacts of the current proposed project modification. Although the current proposed modification affects only one portion of the overall project evaluated in the August 2006 Final EIR and the December 2006 Addendum, a full description of the impacts evaluated in the August 2006 Final EIR and the December 2006 Addendum is presented to provide a clear understanding of the previously proposed project as well as the current proposed project.

This section sequentially presents the initial project evaluated in the August 2006 Final EIR, the December 2006 Addendum and the current proposed project to show the chronology of the impact analysis, and to show the comparison of the current proposed modification with the August 2006 Final EIR project.



Figure 5-2 Construction Worker Routes between the I-105 Freeway and the Parking Facility

6.1 Summary of Impacts in August 2006 Final EIR

The NOP/IS for the August 2006 Final EIR project evaluated all 17 of the environmental topics in accordance with CEQA and determined that 11 of the 17 environmental topics would not be significantly adversely affected by the proposed project. These topics were aesthetics, agricultural resources, biological resources, cultural resources, energy, geology and soils, land use and planning, mineral resources, population and housing, public services, and recreation. Two comment letters were received on the NOP/IS. However, none of the comments received expressed concerns about the 11 topics that the IS/NOP determined would not be significantly affected by the proposed project. Thus, these topics were not addressed further in the Draft EIR or the Final EIR.

Six of the 17 environmental topics required further evaluation in the EIR. The August 2006 Final EIR concluded that the following four of the six environmental topics evaluated in the EIR would not be significantly adversely affected by the proposed project or could be mitigated to a level of insignificance: hydrology/water quality, noise, solid and hazardous waste, and transportation and traffic. Section 7.0 of this Addendum discusses the effects of the current proposed project modification on the environmental topics not found to be significant and the environmental topics mitigated to a level of insignificance as concluded in the August 2006 Final EIR, except transportation and traffic. The analysis shows that these environmental areas would not be substantially affected by the current proposed project modification. Therefore, the conclusions for these environmental topic areas from the August 2006 Final EIR do not change as a result of implementing the current proposed project modification.

As discussed in the following paragraphs, the August 2006 Final EIR identified potentially significant adverse impacts after the implementation of available mitigation measures for two environmental topic areas: 1) air quality (construction emissions), and 2) hazards (from the operation of a new DEA regenerator in the No. 6 H₂S Plant).

The August 2006 Final EIR indicated that the Chevron Heavy Crude Project would result in the following significant unavoidable adverse impacts:

- Emissions of CO, VOC and NO_x will exceed mass daily significance thresholds during construction; therefore, construction air quality impacts were considered to be significant.
- The hazard analysis showed that the proposed modifications to the No. 6 H₂S Plant could result in potential public exposure to significant adverse H₂S concentrations under “worst-case” consequence analysis conditions. As a result, the potential consequences of a release of H₂S associated with these modifications are significant.

The analysis in the August 2006 Final EIR also indicated that the proposed project would result in the following potentially significant but mitigable impacts:

- PM10 emissions during construction could potentially exceed the mass daily emissions threshold; mitigation measures were identified that would reduce the impacts to less-than-significant levels.
- Noise during construction activities could have potentially significant adverse impacts; mitigation measures were identified that would reduce the impacts to less-than-significant levels.

6.2 Summary of Impacts in December 2006 Addendum

The December 2006 Addendum evaluated all 17 of the environmental topics as required by CEQA, and concluded that one environmental topic area would be affected by the proposed project modification - air quality during construction. The primary reason was that the proposed modification replaced an air quality mitigation measure which, in turn, affected only air quality and no other environmental topic.

The December 2006 Addendum analyzed construction emissions with the effects of the revision to air quality Mitigation Measure AQ-1 included. The results indicated that peak daily mitigated CO, VOC, SO_x and PM10 construction emissions associated with the revision to air quality Mitigation Measure AQ-1 are less than the peak daily construction emissions for the project shown in the August 2006 Final EIR. Peak daily mitigated NO_x emissions are higher than peak daily mitigated NO_x emissions in the August 2006 Final EIR, but the increase was not considered to be a substantial increase and, therefore, less than significant. Thus, no new significant adverse impacts from construction activities were expected from the project modification analyzed in the December 2006 Addendum, and existing significant adverse impacts previously identified in the August 2006 Final EIR would not be made substantially worse.

6.3 Analysis of Impacts from the Current Proposed Project Modification

This Addendum evaluated all 17 of the environmental topics as required by CEQA, and concluded that two environmental topic area would be affected by the current proposed project modification - air quality and transportation/traffic during construction. The primary reason is that the current proposed modification changes the location for construction worker parking which, in turn, changes the routes traveled by construction workers and shuttle buses to and from the parking facility. The changes in the routes affect emissions from the construction worker commuting vehicles and shuttle buses, because the distances traveled are different than the distances analyzed in the August 2006 Final EIR and the December 2006 Addendum. Additionally, because the routes are different, construction worker commuting traffic will affect different roadways and intersections than the roadways and intersections that were affected by the project evaluated in the August 2006 Final EIR and in the December 2006 Addendum.

The following two subsections presents the results of the evaluations of the air quality and transportation and traffic impacts associated with the current proposed project modification. Additionally, Subsection 6.3.3 presents the evaluation of hazard impacts associated with the current proposed project modification, since the August 2006 Final EIR concluded that the proposed project could result in significant adverse hazard impacts. Section 7.2 presents the analysis of the remaining 14 environmental topic areas where the impacts of the current proposed project modification were evaluated in the Addendum and found not to be potentially significant.

6.3.1 Air Quality

Both construction and operational air quality impacts were evaluated in the August 2006 Final EIR and the December 2006 Addendum. Air quality impacts that equal or exceed the significance thresholds identified in Table 6-1 are considered to be significant adverse air quality impacts.

Table 6-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO _x	100 lb/day	55 lb/day
VOC	75 lb/day	55 lb/day
PM10	150 lb/day	150 lb/day
PM2.5	55 lb/day	55 lb/day
SO _x	150 lb/day	150 lb/day
CO	550 lb/day	550 lb/day
Lead	3 lb/day	3 lb/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Hazard Index \geq 1.0 (project increment) Hazard Index \geq 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants ^a		
NO ₂ 1-hour average annual average	District is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^b 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^b & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
CO 1-hour average 8-hour average	Although not designated attainment, the District meets the definition of attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	
^a Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated. ^b Ambient air quality threshold based on SCAQMD Rule 403.		
KEY lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq greater than or equal to		

Construction Emissions - Regional Impacts

August 2006 Final EIR

The August 2006 Final EIR evaluated construction activities and emissions during each month of the entire construction period for the proposed project. The months with the highest emissions of each pollutant were then identified to determine the peak daily construction emissions of each pollutant. The August 2006 Final EIR concluded that peak daily emissions of CO, VOC, NO_x and PM10 would exceed the CEQA significance thresholds for construction. The peak daily

construction emissions were anticipated to occur in October 2007, during the Coker turnaround. Feasible mitigation measures to reduce emissions during construction were identified. Peak daily mitigated CO, VOC and NO_x construction emissions from the August 2006 Final EIR, which were also anticipated to occur in October 2007, would continue to exceed the CEQA significance thresholds for construction, but mitigated peak daily PM10 emissions would be below the significance threshold.

December 2006 Addendum

The December 2006 Addendum analyzed mitigated construction emissions including the revision to air quality Mitigation Measure AQ-1. The analysis in the December 2006 Addendum indicated that revised peak daily mitigated CO and NO_x emissions were anticipated to occur in October 2007, revised peak daily mitigated VOC and SO_x emissions were anticipated to occur in November 2006, and revised peak daily mitigated PM10 emissions were anticipated to occur in January 2007. Similar to the conclusion regarding construction air quality impacts in the August 2006 Final EIR, peak daily mitigated construction CO, VOC and NO_x emissions exceeded the SCAQMD's CEQA significance thresholds, but revised peak daily mitigated SO_x and PM10 emissions were less than the significance thresholds.

Current Proposed Modification

The analyses of construction emissions in the August 2006 Final EIR and in the December 2006 Addendum included emissions from construction worker commuting vehicles and from buses transporting construction workers between the off-site parking location and the refinery. The current proposed off-site parking location is closer to both the I-105 freeway and the refinery than the off-site parking location in the August 2006 Final EIR and in the December 2006 Addendum. Therefore, the construction worker travel distance between the I-405 freeway and the parking facility and the construction worker shuttle bus travel distance between the parking facility and the refinery will be less than the distances evaluated in the August 2006 Final EIR and the December 2006 Addendum. Because on-road motor vehicle emissions are proportional to distance traveled, and because the current proposed modification will not change the number of construction workers or shuttle buses during construction of the project, emissions from these vehicles will be less than the emissions in the August 2006 Final EIR and the December 2006 Addendum.

Peak daily VOC, SO_x and PM10 construction emissions in the December 2006 Addendum were anticipated to occur prior to May 2007. Because the current proposed change in the off-site parking location will not occur until May 2007, the reduction in motor vehicle emissions from the current proposed modification will not affect peak daily VOC, SO_x or PM10 construction emissions. Therefore, peak daily VOC, SO_x and PM10 emissions will be the same as in the December 2006 Addendum. The reduction in construction motor vehicle emissions will reduce peak daily CO and NO_x construction emissions, because peak daily emissions of these pollutants are anticipated to occur in October 2007. Thus, no new significant adverse impacts from construction activities are expected from the current proposed project modification, and existing significant adverse impacts previously identified in the August 2006 Final EIR and the December 2006 Addendum will not be made substantially worse.

This analysis of construction-related air quality impacts associated with the current proposed project modification contributes to the conclusion that an Addendum is the appropriate CEQA document for the current proposed project modification.

Construction Emissions - Localized Impacts

August 2006 Final EIR

The SCAQMD (2003) staff has developed a localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area (SRA) that can be used to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area.

Maximum daily mitigated on-site construction emissions were compared with the LSTs in the August 2006 Final EIR to evaluate the potential for emissions during construction of the project to cause significant localized CO, NO₂ or PM₁₀ impacts. Maximum daily mitigated on-site CO and PM₁₀ emissions did not exceed the LSTs, but the maximum daily NO_x LSTs were exceeded. Therefore, emissions during construction of the project were not expected to cause significant adverse localized impacts to CO or PM₁₀ air quality, but they may cause significant impacts to localized NO₂ air quality.

December 2006 Addendum

Maximum daily mitigated on-site construction emissions with the proposed revision to Mitigation Measure AQ-1 were compared with the LSTs in the December 2006 Addendum. Revised on-site CO, and PM₁₀ emissions did not exceed the respective LSTs. However, revised maximum daily on-site NO_x emissions exceeded the LST. Therefore, similar to the conclusions regarding localized construction air quality impacts in the August 2006 Final EIR, emissions during construction of the project with the proposed revision to Mitigation Measure AQ-1 were not expected to cause significant localized impacts to CO or PM₁₀ air quality, but they may cause significant impacts to localized NO₂ air quality during construction.

Current Proposed Modification

The proposed change to the off-site parking location that is the subject of this Addendum will not affect on-site construction emissions, because the proposed modification only affects off-site motor vehicle travel. Therefore, the current proposed modification will not change the results of the analyses of localized air quality impacts during construction in the August 2006 Final EIR and in the December 2006 Addendum. This analysis of construction-related localized air quality impacts associated with the current proposed project modification contributes to the conclusion that an Addendum is the appropriate CEQA document for the current proposed project modification.

Operational Impacts

The August 2006 Final EIR concluded that operation of the proposed project will not cause significant adverse air quality impacts and that mitigation measures for air quality impacts during operation of the proposed project are not required. The project modification evaluated in the December 2006 Addendum only involved revision to one air quality construction mitigation measure and did not affect any other aspects of operation of the proposed project. Therefore, emissions of both criteria pollutants and toxic air contaminants during operation of the project evaluated in the December 2006 Addendum were the same as during operation of the project as analyzed in the August 2006 Final EIR, and would not cause significant adverse impacts.

Similarly, the current proposed modification only affects off-site motor vehicle travel during construction. Therefore, emissions of both criteria pollutants and toxic air contaminants during operation of the project evaluated this Addendum will be the same as during operation of the project as analyzed in the August 2006 Final EIR and the December 2006 Addendum, and will not cause significant adverse impacts. This analysis of operation-related air quality impacts associated with the current proposed project modification contributes to the conclusion that an addendum is the appropriate CEQA document for the current proposed project modification.

6.3.2 Transportation and Traffic

The August 2006 Final EIR and the December 2006 Addendum evaluated impacts on transportation and traffic during both construction and operation of the project. Traffic impacts will be considered significant if any of the following SCAQMD significance criteria are exceeded:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month;
- An intersection's volume to capacity ratio increases by 0.02 (two percent) or more when the LOS is already D, E or F;
- A major roadway is closed to all through traffic, and no alternate route is available;
- There is an increase in traffic (e.g., 350 heavy-duty truck round-trips per day) that is substantial in relation to the existing traffic load and capacity of the street system;
- The demand for parking facilities is substantially increased;
- Water borne, rail car or air traffic is substantially altered; or
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

Construction Impacts

August 2006 Final EIR

A two-step process was used in the August 2006 Final EIR to estimate the project-related traffic volumes at various points on the transportation system adjacent to the refinery. First, the amount of

traffic that would be generated during project construction was determined. Next, the trips were assigned to specific roadways. The impacts on the assigned roadways and intersections of the additional trips generated by construction of the proposed project were then analyzed.

The overall project construction period is expected to last a total of 22 months, beginning in June 2006 and ending in March 2008. 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 most of the 22-month construction period. During the turnaround for the No. 4 Crude Unit, from late-June 2007 through early-August 2007, construction for the proposed No. 4 Crude Unit modifications is anticipated to take place in two 10-hour shifts per day, 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. During the turnaround for the Coker, from mid-September 2007 through November 2007, construction for the proposed Coker modifications is anticipated to take place in two 10-hour shifts per day, 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.

The AM peak period of the adjacent street system surrounding the refinery is from 7:00 a.m. to 9:00 a.m. Because the daytime construction shift starts at 6:30 a.m., and the nighttime shift (when two shifts occur) ends at 5:00 a.m., worker commuting traffic attributable to project construction will not affect the AM peak hour conditions.

The PM peak period is from 4:00 p.m. to 6:00 p.m. The nighttime construction shift will not affect the PM peak period, because the nighttime shift will begin at 6:30 p.m., after the end of the PM peak period. However, because the daytime construction shift ends at 5:00 p.m., construction workers for the proposed project will leave during the PM peak period. Therefore, the analysis examined impacts from construction worker commuting only during the PM peak period, when traffic congestion is highest.

The peak number of construction workers during a shift was anticipated to be 446, during the daytime shift in November 2006 (see Table 6-2). Construction personnel would commute to work in private automobiles, although carpooling would be encouraged. For purposes of a worst-case analysis, a vehicle occupancy rate of 1.0 persons per vehicle was used in the analysis, which means that there would be a peak of 446 worker vehicle trips generated at the beginning and end of a daytime construction shift by project construction activities.

**Table 6-2a
Heavy Crude Project Peak Construction Manpower by Month (June '06 - March '07)**

Project Component	Jun 06	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07
No. 4 Crude Unit	0	3	5	9	20	14	16	18	10	20
Coker	0	148	226	233	277	320	286	293	253	264
No. 6 H ₂ S Plant	4	28	52	74	109	112	69	20	5	0
Total per Day	4	179	283	316	406	446	371	331	268	284
Total per Shift^a	4	179	283	316	406	446	371	331	268	284

Table 6-2b
Heavy Crude Project Peak Construction Manpower by Month (April '07 -March '08)

Project Component	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Oct 07	Nov 07	Dec 07	Jan 08	Feb 08	Mar 08
No. 4 Crude Unit	20	20	84	223	70	0	0	0	0	0	0	0
Coker	250	201	174	94	20	234	694	252	77	40	20	20
No. 6 H ₂ S Plant	0	0	0	0	0	0	0	0	0	0	0	0
Total	270	221	258	317	90	234	694	252	77	40	20	20
Total per Shift^a	270	221	216	206	55	117	347	126	77	40	20	20

^a Construction for the proposed No. 4 Crude Unit modifications will occur two shifts per day from late-June 2007 through early-August 2007, and construction for the proposed Coker modifications will occur two shifts per day from mid-September 2007 through November 2007. Construction will occur one shift per day for the rest of the construction period. Shaded entries indicate periods with two daily construction shifts.

The peak daily truck traffic at the refinery during construction would be approximately 82 trucks per day. Since these truck trips would mainly consist of material deliveries, they would be spread throughout the 10-hour workday. To minimize potential peak hour impacts, Chevron arranges for deliveries of construction equipment and materials to avoid the AM and PM peak hours to the maximum extent possible. For analysis purposes, a change of two percent at an intersection caused by the addition of project traffic is considered a significant change but may or may not result in a significant impact. A typical four-legged intersection operating at an acceptable level of service will have approximately 3,000 to 6,000 vehicles using the intersection during a peak hour. To cause a two percent change in the intersection capacity utilization (ICU), a minimum of 60 vehicles during the peak hour would be required (3,000 vehicles X .02 = 60 vehicles). The maximum number of truck trips occurring during the AM or PM peak hours would be eight (one-tenth of the peak daily total of 82 truck trips). Therefore, project truck traffic during construction will have no or negligible impacts on traffic.

Chevron required construction workers commuting to and from the parking facility specified in the August 2006 Final EIR to access the parking facility by traveling on the Interstate 105 (I-105) freeway and West Imperial Highway to Vista Del Mar, which avoids traveling on surface streets other than West Imperial Highway and Vista Del Mar. The same route is used to leave the refinery vicinity (Vista del Mar to West Imperial Highway to the I-105 freeway).

The only intersections in the vicinity of the refinery that are affected by construction worker commuter traffic from the project are the intersections of Vista Del Mar and Imperial Highway, Main Street and Imperial Highway, and California Avenue and Imperial Highway. After the intersection of California Avenue and Imperial Highway, construction worker commuter traffic continues on Imperial Highway to the start of the I-105 freeway, which is west of El Segundo Boulevard. During the PM peak hour, project construction traffic uses the northbound free right turn lane at the intersection of Vista del Mar and Imperial Highway. Free movements at intersections are not included in the level of service or delay calculations for intersections. Thus, project traffic will not impact the level of service at this location. Therefore, construction worker traffic for the proposed project only affects the level-of-service at the intersections of California Avenue and Imperial Highway and Main Street and Imperial Highway.

The existing and projected PM peak period volume to capacity (V/C) ratios at the intersections of California Avenue and Imperial Highway and Main Street and Imperial Highway are shown in Table 6-3. Table 6-3 shows that the V/C ratio for California Avenue and Imperial Highway would increase from 0.482 (LOS A) to 0.575 (LOS A), and the V/C ratio for Main Street and Imperial Highway would increase from 0.617 (LOS B) to 0.710 (LOS C). Thus, the August 2006 Final EIR concluded that construction worker commuter traffic for the proposed project will not cause the LOS at either of these intersections to decrease to D or worse. Therefore, construction worker commuter traffic for the project will not cause significant adverse impacts on intersections in the vicinity of the refinery

**Table 6-3
Existing and Forecasted Intersection Volume to Capacity Summary from August
2006 Final EIR**

Intersection	Existing PM V/C Ratio	Existing+ Project PM V/C ratio	Percent Change
California Ave & Imperial Hwy	.482	.575	.093
Main St. & Imperial Hwy.	.617	.710	.093
V/C Ratio 00-.60 = LOS A Free flow (very slight or no delay) V/C Ratio .61-.70 = LOS B Stable flow (slight delay) V/C Ratio .71-.80 = LOS C Stable flow (acceptable delay) V/C Ratio .81-.90 = LOS D Approaching unstable flow or operation (tolerable delay) V/C Ratio .91-1.0 = LOS E Unstable flow (at maximum capacity; unacceptable delay) V/C Ratio Above 1.0 F = LOS F Forced flow (above maximum capacity; unacceptable delay)			
Source: August 2006 Final EIR, Table 4.6-1			

To address potential impacts on the freeway system, four segments along the I-105 and the I-405 freeways in the project vicinity were examined as the regional freeway segments most likely to be impacted. Traffic volumes attributable to construction worker commuting for the proposed project were analyzed as an incremental increase to the existing freeway conditions. The LOS values used for freeway segment analyses are estimated by calculating the demand-to-capacity (D/C) ratio and identified by the corresponding LOS definitions.

The results of the analysis indicated that construction worker traffic for the project will not cause the LOS on any of the four segments to degrade to level D or worse or cause an increase of 0.02 or more in the D/C ratio for a segment operating at LOS D, E, or F. Therefore, construction worker commuting traffic for the project will not cause significant adverse impacts on freeways in the vicinity of the refinery.

Additionally:

- Neither construction nor operation of the proposed project will require closing major roadways or railroads to all through traffic with no alternate route available; and
- Chevron has confirmed with the operator of the off-site parking lot that will be used for construction employees that parking places will be provided for the entire construction

workforce, and, therefore, no on-street parking will be required and no substantial increases in demand on parking facilities will occur.

Therefore, construction of the proposed project will not cause significant adverse impacts to transportation and traffic.

December 2006 Addendum

The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum would not change the traffic volumes during construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. Because the August 2006 Final EIR concluded that the project would not cause significant adverse impacts to transportation or traffic during construction, the December 2006 Addendum concluded that the proposed modification to Mitigation Measure AQ-1 would also not cause significant adverse impacts to transportation or traffic during construction of the project.

Current Proposed Modification

Impacts to transportation and traffic with the change in the off-site construction worker parking location were analyzed in this Addendum. Details of the analysis are provided in Appendix B.

The beginning and ending times for the construction shifts will not be affected by the current proposed modification. Because construction worker commuting will not occur during the AM peak traffic period, the analysis examined impacts from construction worker commuting only during the PM peak hour, when traffic congestion is highest.

The proposed change to the parking location will occur after April 2007 and continue throughout the remainder of the construction period, through March 2008. Table 6-2 shows that the peak number of construction workers during a shift after April 2007 is anticipated to be 347, in October 2007, during the turnaround for the Coker. Construction personnel would continue to commute to work in private automobiles, although carpooling would be encouraged. For purposes of a worst-case analysis, a vehicle occupancy rate of 1.0 persons per vehicle was used in the analysis, which means that there would be a peak of 347 worker vehicle trips generated at the beginning and end of a construction shift by project construction activities.

The route that construction workers will follow when leaving the parking facility is shown in Figure 5-2. Figure 5-2 shows that the following intersections in the vicinity of the refinery will be affected by construction worker commuter traffic:

- East Grand Avenue and Continental Boulevard
- Continental Boulevard and East Mariposa Avenue
- East Mariposa Avenue and North Nash Street
- East Mariposa Avenue and North Douglas Street
- North Douglas Street and Atwood Way

Traffic counts were made in April 2007 to characterize existing traffic volumes at these intersections. Existing and projected PM peak period V/C ratios at the intersections are shown in 6-4. Table 6-4 shows that all five of the intersections currently operate at a V/C ratio of 0.363 or less, which corresponds to LOS A, and that they will operate at a V/C ratio of 0.443 or less, which also corresponds to LOS A, with the addition of the construction worker commuting traffic for the project. Thus, construction worker commuter traffic for the current proposed modification will not cause the LOS at these intersections to decrease to D or worse. Therefore, construction worker commuter traffic for the current proposed modification will not cause significant adverse impacts on intersections in the vicinity of the refinery.

**Table 6-4
Existing and Forecasted Intersection Volume to Capacity Summary for Current
Proposed Modification**

Intersection	Existing PM V/C Ratio	Existing+ Project PM V/C ratio	Change
East Grand Ave. and Continental Blvd.	0.292	0.443	0.151
Continental Blvd. and East Mariposa Ave.	0.363	0.373	0.010
East Mariposa Ave. and North Nash St,	0.292	0.401	0.108
East Mariposa Ave. and North Douglas St.	0.324	0.433	0.108
North Douglas St. and Atwood Way	0.243	0.352	0.108
V/C Ratio 00-.60 = LOS A Free flow (very slight or no delay) V/C Ratio .61-.70 = LOS B Stable flow (slight delay) V/C Ratio .71-.80 = LOS C Stable flow (acceptable delay) V/C Ratio .81-.90 = LOS D Approaching unstable flow or operation (tolerable delay) V/C Ratio 91-1.0 = LOS E Unstable flow (at maximum capacity; unacceptable delay) V/C Ratio Above 1.0 F = LOS F Forced flow (above maximum capacity; unacceptable delay)			

The current proposed change in the off-site construction worker parking location will not change construction worker commuter traffic on the freeway system because construction workers will continue to use the I-105 freeway when they travel to and from the parking facility. Because the August 2006 Final EIR concluded that construction worker commuting traffic will not cause significant adverse impacts to the surrounding freeways, the current proposed modification will also not cause significant adverse traffic impacts on the surrounding freeways.

The current proposed change in the off-site construction worker parking location will also not change truck traffic at the refinery during construction from the construction truck traffic analyzed in the August 2006 Final EIR. Because the August 2006 Final EIR concluded that construction truck traffic will not cause significant adverse transportation and traffic impacts, the current proposed modification will also not cause significant adverse transportation and traffic impacts from construction trucks.

Based on these analyses, the current proposed modification will not cause significant adverse transportation and traffic impacts during construction. This analysis of construction-related transportation and traffic impacts associated with the current proposed project modification

contributes to the conclusion that an addendum is the appropriate CEQA document for the current proposed project modification.

Operation Impacts

The August 2006 Final EIR concluded that operation of the proposed project will not cause significant adverse transportation and traffic impacts and that mitigation measures for traffic and transportation impacts during operation of the proposed project are not required. The project modification evaluated in the December 2006 Addendum only involved revision to one air quality construction mitigation measure and did not affect any other aspects of operation of the proposed project. Therefore, traffic during operation of the project evaluated in the December 2006 Addendum was the same as during operation of the project as analyzed in the August 2006 Final EIR, and would not cause significant adverse impacts.

Similarly, the current proposed modification only affects off-site motor vehicle travel during construction. Therefore, traffic during operation of the project evaluated this Addendum will be the same as during operation of the project as analyzed in the August 2006 Final EIR and the December 2006 Addendum, and will not cause significant adverse impacts. This analysis of operation-related transportation and traffic impacts associated with the current proposed project modification contributes to the conclusion that an addendum is the appropriate CEQA document for the current proposed project modification.

6.3.3 Hazards

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

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

These are the same hazards significance criteria used in the August 2006 Final EIR.

The August 2006 Final EIR included an evaluation of potential hazards and risk of upset scenarios, and the potential impacts on the community and environment if an upset were to occur. No significant hazard impacts were identified during construction. During operation, several upset scenarios were evaluated based on “worst-case” conditions, and feasible mitigation measures were included. The August 2006 Final EIR concluded that the project posed increased risks that were significant from a potential catastrophic release of H₂S from the No. 6 H₂S Plant.

The project modification evaluated in the December 2006 Addendum only involved revisions to one air quality construction mitigation measure and did not affect any other aspects of either the

construction or operation of the proposed project. Therefore, the project modification evaluated in the December 2006 Addendum did not affect the potential hazards that were analyzed in the August 2006 Final EIR and did not change the conclusions from those analyses regarding potential adverse hazard impacts.

The current proposed project modification only involves a change in the off-site construction worker parking location and does not affect any other aspects of either the construction or operation of the proposed project. Therefore, the current proposed project modification does not affect the potential hazards that were analyzed in the August 2006 Final EIR and does not change the conclusions from those analyses regarding potential adverse hazard impacts.

7.0 TOPIC AREAS FOUND NOT TO BE POTENTIALLY SIGNIFICANT

Section 7.0 discusses the areas found not to be potentially significant in the August 2006 Final EIR for the Chevron Heavy Crude Project, the December 2006 Addendum and in this Addendum. The environmental topic areas found not to be potentially significant in the August 2006 Final EIR and the December 2006 Addendum are addressed in Section 7.1. Section 7.2 discusses the same areas found not to be potentially significant, but for the current proposed modification to the off-site construction worker parking location.

7.1 August 2006 Final EIR and December 2006 Addendum

The Initial Study/Notice of Preparation (IS/NOP) for the Chevron Products Company - El Segundo Refinery Heavy Crude Project evaluated the 17 environmental topics in accordance with CEQA. The IS/NOP determined 11 environmental topics did not warrant further consideration in the Draft EIR. The following paragraphs present the 11 environmental topics that were determined not to have a significant adverse impact in the IS/NOP, along with brief summaries of why project impacts in each of these topics were found not to be potentially significant, and thus the topics were excluded from further consideration.

Aesthetics - The IS for the Chevron Heavy Crude Project concluded that there would be no significant adverse aesthetic impacts from the project, because all project activities will take place within the boundaries of the existing refinery, and 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 refinery. The primary change with a potential for visual resources impacts will be the proposed replacement of the existing Main Fractionator column at the Coker, which is 118 feet tall, with a new Main Fractionator column, which will be 170 feet tall. Although the upper portion of the proposed new Main Fractionator column is expected to be visible from most off-site locations, there are other existing tall towers in the immediate vicinity of the proposed new Main Fractionator column, including the coke drums and drilling structures on top of the coke drums (340 feet high) and the Fluid Catalytic Cracking (FCC) Unit Reactor (332 feet high). As a result, the new Main Fractionator column will not be noticeably different compared to other similar tall structures.

Additional permanent lighting will be installed on the proposed new Coker Main Fractionator column. This new lighting will be consistent in intensity and type with the existing lighting on equipment and other refinery structures in the vicinity of the proposed new Coker Main Fractionator column, including the taller drilling structures on top of the coke drums and the taller Fluid Catalytic Cracking (FCC) Unit Reactor. Additionally, the proposed new Coker Main Fractionator column will be located in the middle of the refinery property. Thus, no new areas would be illuminated on-site or off-site by permanent additional lighting.

For 16 months of the anticipated 22-month construction period, construction activities associated with the 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 six-week period when nighttime construction is anticipated to occur for the No. 4 Crude Unit modifications and the three months when nighttime construction is anticipated to occur for the Coker modifications. 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. 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. However, typical stanchion-mounted banks of lights will be used to provide the temporary lighting, and 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. Additionally, 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 six-week 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.

In summary, no significant adverse impacts on aesthetics or impacts from light and glare were expected from the proposed project and were not evaluated further in the August 2006 Final EIR. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the visual appearance of new or modified equipment that were evaluated in the IS for the proposed project or the manner in which they are constructed or operated. Therefore, the proposed modification to AQ-1 did not alter the conclusion from the IS that the proposed project will not cause significant adverse aesthetic impacts.

Agricultural Resources - The IS concluded that there would be no significant adverse impacts on agricultural resources, because the construction and operational activities associated with the proposed project would occur within the existing Chevron El Segundo Refinery boundaries, and there are no agricultural uses at the refinery. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum only affected activities that will occur within the boundaries of the existing refinery. For these reasons, the August 2006 Final EIR and the December 2006 Addendum did not further analyze potential adverse impacts to agricultural resources.

Biological Resources - The refinery is zoned and has been used for heavy industrial purposes since 1911, and has already been disturbed. The refinery site does 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 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. The proposed project modifications will occur 3,000 feet or more from the Chevron butterfly sanctuary, and, therefore, will not impact the El Segundo blue butterfly. The Pacific pocket mouse was last reported in the area of the refinery in 1938, and, thus, is not expected to exist at the refinery at present. The only reported occurrence for the beach spectaclepod at the refinery site was in 1884, and the species is not expected to exist at the refinery at present.

For these reasons, the August 2006 Final EIR did not further address potential impacts to biological resources. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to biological resources.

Cultural Resources - 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 refinery. 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. 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.

The more than 90 years of operations at the 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. 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 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. For these reasons, the August 2006 Final EIR did not further address potential impacts to cultural resources.

The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to cultural resources.

Energy - 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 or more efficient than replaced equipment. 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. 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. Although up to 20 additional truck shipments per day of petroleum coke from the refinery are expected during operation, the additional diesel fuel required for these truck trips can be accommodated within existing supplies. Project operation will require the use of additional refinery fuel gas and electrical power in the new and modified refinery equipment, such as pumps, but these requirements can also be accommodated within existing supplies. For these reasons, the August 2006 Final EIR did not further address potential impacts to energy.

The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to energy.

Geology and Soils - The proposed project will be constructed in an area of known seismic activity. The proposed construction activities will conform to the Uniform Building Code and other applicable codes. The City of El Segundo General Plan - Public Safety Element includes Goal PS1: Geology and Soils to “protect the public health and safety and minimize the social and economic impacts associated with geologic hazards,” and Goal PS2: Faulting and Seismicity/Structural Hazards to “minimize injury and loss of life, property damage, and social, cultural and economic impacts caused by earthquake hazards.” The Public Safety Element includes a number of policies and programs to implement these goals. These programs require review of building and developmental plans by the City of El Segundo to ensure that they are consistent with the policies that implement Goals PS1 and PS2. The City of El Segundo will act as the responsible agency for discretionary permits and approvals, if any, required by the City. Therefore, the proposed project will comply with the requirements of this element through the issuance of permits and approvals by the City. Additionally, the refinery site has not been identified as an area where liquefaction (transformation of loose, water-saturated soils to a liquid state during earthquakes) is considered a significant potential risk. With adherence to proper design and construction practices, no significant impacts from seismic ground shaking would be expected.

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, and 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 Storm Water Pollution Prevention Plan (SWPPP) will be developed for project construction to minimize storm water and sediment from the locations where project activities are planned. The proposed project will also comply with SCAQMD Rule 403, which requires various measures to control fugitive dust, and these measures will minimize wind erosion. For these reasons, potential erosion impacts are expected to be less than significant.

Based on the above information, the August 2006 Final EIR did not further address potential impacts to geology and soils. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to geology and soils.

Land Use and Planning - The refinery is zoned by the City of El Segundo as Heavy Industrial (M-2) and used for heavy manufacturing. The overall activities and products produced at the refinery will remain the same, and 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. Additionally, no established communities are located on the refinery property, and consequently, the proposed project will not physically divide an established community. Furthermore, 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. For these reasons, the August 2006 Final EIR did not further address potential impacts to land use and planning.

The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to land use and planning.

Mineral Resources - There are no known mineral resources on the refinery site. Any potential loss of mineral resources from the extraction of the crude oil processed by the refinery 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 locally or to the region and residents of the state. Therefore, no adverse impacts to mineral resources are expected from the construction and operation of the proposed project. For these reasons, the August 2006 Final EIR did not further address potential impacts to mineral resources. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to mineral resources.

Population and Housing - Construction of the proposed project will take place at a facility located in a highly urbanized and populous area of southern California. At the peak of construction, approximately 694 temporary construction jobs will be created by the proposed project. Because of the large size of the construction work force available in the southern California area, all 694 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 operation of the proposed project. Thus, the proposed project will not induce substantial growth either directly or indirectly. For these reasons, the August 2006 Final EIR did not further address potential impacts to population and housing. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to population and housing.

Public Services - To respond to emergency situations, the Chevron El Segundo Refinery maintains an on-site fire department, which 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 departments, including the City of El Segundo Fire Department. The refinery is also active in the Beach Cities Community Awareness and Emergency Response organization, where

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

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 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 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.

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 during operation or substantially expand the existing facilities within the refinery, there is expected to be no need for new or expanded police protection.

Because the proposed project will not require additional operational staffing at the refinery, 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.

For these reasons, the August 2006 Final EIR did not further address potential impacts to population and housing. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to public services.

Recreation - 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. For these reasons, the August 2006 Final EIR did not further address potential impacts to recreation. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. For these reasons, the December 2006 Addendum did not further address potential impacts to recreation.

The August 2006 Final EIR and the December 2006 Addendum evaluated the six remaining environmental topics as potentially significant impacts and concluded that four of the six

environmental topic areas would not be adversely affected by the proposed project. Three of these four environmental topic areas are listed below, along with a summary as to why they were found not to be potentially significant. The fourth of these environmental topic areas, transportation and traffic, is discussed in Section 6.2 of this Addendum.

Hydrology and Water Quality - The August 2006 Final EIR concluded that there would be no significant adverse impacts to water quality and supply for several reasons: 1) existing water supply and wastewater disposal systems were determined to be adequate to meet the proposed project demand; 2) storm water would be controlled per the Storm Water Pollution Prevention Plan (SWPPP) developed for the project and the overall refinery SWPPP (modified to incorporate the project as needed); and, 3) no significant adverse impacts would be expected to surface or groundwater quality following implementation of surface water runoff control measures. Because no anticipated significant adverse impacts were identified for hydrology and water quality, no specific mitigation measures were identified or required. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change water use or wastewater generation and treatment during construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. Therefore, the December 2006 Addendum concluded that the proposed modification to Mitigation Measure AQ-1 would not cause significant adverse impacts to hydrology and water quality.

Noise - The August 2006 Final EIR concluded that the construction activities associated with the proposed modifications to the No. 4 Crude Unit would have the potential to cause significant adverse noise impacts. A mitigation measure that will reduce these impacts to less than significant was included in the August 2006 Final EIR. As a result, mitigated construction noise will not cause significant adverse impacts. The August 2006 Final EIR concluded that operational activities resulting from the Chevron Heavy Crude Project would have no significant adverse noise impacts. Operational noise levels were expected to result in an increase in Community Noise Environment Levels (CNEL) in the refinery area of less than one decibel (A-weighted) (dBA), which would not be expected to be audible over the existing noise at the refinery. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change noise generating activities during construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. Therefore, the December 2006 Addendum concluded that the proposed modification to Mitigation Measure AQ-1 would not cause significant adverse impacts to noise.

Solid/Hazardous Waste - The August 2006 Final EIR concluded that the volumes of both non-hazardous and hazardous wastes that potentially would be generated by the overall Chevron Heavy Crude Project during construction and operation would have no significant adverse impacts on the capacity of waste disposal facilities currently used by the El Segundo refinery to dispose of such wastes. The proposed modification to air quality Mitigation Measure AQ-1 that was the subject of the December 2006 Addendum did not change solid or hazardous waste generation and treatment during construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. Therefore, the December 2006 Addendum concluded that the proposed modification to Mitigation Measure AQ-1 would not cause significant adverse impacts to solid and hazardous waste.

7.2 Current Proposed Project Modification

This Addendum evaluated the 17 environmental topics as required by CEQA and eliminated 14 of the 17 topics from further consideration. The 14 topic areas found not to be significant are presented below, along with a summary of the basis for this finding in each topic.

Aesthetics - The proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change the visual appearance of new or modified equipment that were evaluated in the IS for the proposed project or the manner in which they are constructed or operated. All project activities will take place within the boundaries of the existing refinery, and 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 refinery. Although temporary lighting will be required during nighttime construction for a portion of the construction schedule, lighting will be directed to minimize potential impacts to off-site locations. Therefore, the proposed modification to the off-site construction worker parking location will not alter the conclusion from the IS that the proposed project will not cause significant adverse aesthetic impacts.

Agricultural Resources - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum will only affect activities that will occur on public roadways. Neither the refinery nor the surrounding industrial area contains agricultural resources and, thus, the current proposed modification will not result in significant adverse impacts on agricultural resources.

Biological Resources - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum will not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. The refinery is highly disturbed, and only one special-status species, the El Segundo blue butterfly, has been reported at the refinery within the past 68 years. The El Segundo blue butterfly is located in a protected habitat at the refinery more than 3,000 feet from the proposed modifications. Therefore, the proposed modification to the off-site construction worker parking location will not alter the potential for the proposed project to impact biological resources or the conclusion from the IS that the proposed project will not cause significant adverse impacts to biological resources.

Cultural Resources - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change the locations of new or modified equipment that were evaluated in the IS for the proposed project, or the manner in which they are constructed or operated. Proposed project activities will take place in areas where the ground surface has been previously disturbed. 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. 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 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 continue to incorporate a number of standard protective measures during earth-disturbing activities. Therefore, the proposed modification to the off-site construction worker parking location will not alter the potential for the proposed project to impact cultural resources or the conclusion from the IS that the proposed project will not cause significant adverse impacts to cultural resources.

Energy - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change energy requirements during the construction or operation of the new or modified equipment that were evaluated in the IS for the proposed project. Construction of the project will require the same number and types of construction equipment as evaluated in the August 2006 Final EIR. New equipment installed as part of the proposed modifications will be as efficient or more efficient than replaced equipment. 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. 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. Although up to 20 additional truck shipments per day of petroleum coke from the refinery are expected during operation, the additional diesel fuel required for these truck trips can be accommodated within existing supplies. Therefore, the proposed modification to the off-site construction worker parking location will not alter the conclusion from the IS that the proposed project will not cause significant adverse impacts to energy.

Geology and Soils - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change locations or the manner in which the new or modified equipment that were evaluated in the IS for the proposed project are constructed or operated. The proposed project will use standard construction practices that would adequately control erosion and runoff, and will adhere to the requirements of the Uniform Building Code for Seismic Zone 4. Therefore, the proposed modification to the off-site construction worker parking location will not alter the conclusion from the IS that the proposed project will not cause significant adverse impacts to geology and soils.

Land Use and Planning - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change locations or the manner in which the new or modified equipment that were evaluated in the IS for the proposed project are constructed or operated. The overall activities and products produced at the refinery will remain the same, and 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. Therefore, the proposed modification to the off-site construction worker parking location will not alter the

conclusion from the IS that the proposed project will not cause significant adverse impacts to land use and planning.

Mineral Resources - There are no known mineral resources at the Chevron El Segundo refinery. Because the current proposed modification to the off-site construction worker parking location that is the subject of this Addendum will only affect traffic on public roadways during construction, there would be no significant adverse impacts on mineral resources.

Population and Housing - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change manpower requirements for the construction or operation of the proposed project that were evaluated in the IS. The large construction work force in the greater Los Angeles area can accommodate the proposed project's labor requirements during construction without requiring in-migration of workers and their families that would represent population growth. No additional employees will be required for the operation of the proposed project. Therefore, the proposed modification to the off-site construction worker parking location will not alter the conclusion from the IS that the proposed project will not cause significant adverse impacts to population and housing.

Public Services - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change requirements for public services during the construction or operation of the proposed project that were evaluated in the IS. The Chevron El Segundo Refinery maintains an on-site fire department, which is capable of responding to petroleum and structure fires, hazardous materials releases, and confined-space rescues. The refinery is also served by the City of El Segundo Fire Department, which maintains two fire stations within the city and cooperates in emergency response planning with industrial facilities in the community, such as the refinery. 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 during construction or operation or substantially expand the existing facilities within the refinery, there is expected to be no need for new or expanded police protection. Therefore, the proposed modification to the off-site construction worker parking location will not alter the conclusion from the IS that the proposed project will not cause significant adverse impacts to public services.

Recreation - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not involve changes in population that would increase demand on recreational facilities or cause negative effects on existing recreational facilities. Therefore, the proposed modification to the off-site construction worker parking location will not alter the conclusion from the IS that the proposed project will not cause significant adverse impacts to recreation.

Hydrology and Water Quality - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change water use or wastewater generation and treatment during construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. The August

2006 Final EIR concluded that there would be no significant adverse impacts to water quality and supply for several reasons: 1) existing water supply and wastewater disposal systems were determined to be adequate to meet the proposed project demand; 2) storm water would be controlled per the SWPPP developed for the project and the overall refinery SWPPP (modified to incorporate the project as needed); and, 3) no significant adverse impacts would be expected to surface or groundwater quality because of surface water runoff control measures.

Noise - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change noise levels generated from construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. The August 2006 Final EIR concluded that the construction activities associated with the proposed modifications to the No. 4 Crude Unit would have the potential to cause significant adverse noise impacts. A mitigation measure that will reduce these impacts to less than significant was included in the August 2006 Final EIR. As a result, mitigated construction noise will not cause significant adverse impacts. The August 2006 Final EIR concluded that operational activities resulting from the Chevron Heavy Crude Project would have no significant adverse noise impacts. Operational noise levels were expected to result in an increase in CNEL in the refinery area of less than one dBA, which would not be expected to be audible over the existing noise at the refinery.

Solid/Hazardous Waste - The current proposed modification to the off-site construction worker parking location that is the subject of this Addendum would not change the quantities of solid or hazardous waste generated during construction or operation of the proposed project that were evaluated in the August 2006 Final EIR. The August 2006 Final EIR concluded that the volumes of both non-hazardous and hazardous wastes that potentially would be generated by the overall Chevron Heavy Crude Project during construction and operation would have no significant adverse impacts on the capacity of waste disposal facilities currently used by the El Segundo refinery to dispose of such wastes.

8.0 CONCLUSIONS

In April 2007, Chevron proposed to change the location anticipated for off-site construction worker parking in the August 2006 Final EIR and the December 2006 Addendum. As shown in Sections 6.0 and 7.0, the analysis of the current proposed project modification indicated that it will not create new significant adverse impacts in any environmental areas analyzed in the August 2006 Final EIR and in the December 2006 Addendum, particularly transportation and traffic, or make substantially worse any existing significant adverse impacts. Based on the environmental analysis prepared for the current proposed project modification, the SCAQMD has quantitatively and qualitatively demonstrated that the proposed project modification qualifies for an Addendum to make the previously certified August 2006 Final EIR complete.

9.0 REFERENCES

- California Air Resources Board, 2001. January 31, 2001, verification letter from Dean C. Simeroth, California Air Resources Board, to Thomas J. Sheahan, Lubrizol Corp.
- California Air Resources Board, 2003. September 23, 2003, verification letter from Dean C. Simeroth, California Air Resources Board, to James E. Peeples, O₂ Diesel, Inc.
- South Coast Air Quality Management District, 2003. Final Localized Significance Threshold Methodology. June 2003 Available for download at <http://www.aqmd.gov/ceqa/handbook/LST/LST.html>.
- South Coast Air Quality Management District. 2005. Initial Study for the Draft Environmental Impact Report for the Chevron Products Company - El Segundo Refinery Heavy Crude Project. September.
- South Coast Air Quality Management District. 2006a. Draft Environmental Impact Report for the Chevron Products Company - El Segundo Refinery Heavy Crude Project. April.
- South Coast Air Quality Management District. 2006b. Final Environmental Impact Report for the Chevron Products Company - El Segundo Refinery Heavy Crude Project. August.
- South Coast Air Quality Management District. 2006c. Addendum to the Final Environmental Impact Report for the Chevron Products Company - El Segundo Refinery Heavy Crude Project. December.

APPENDIX A

AUGUST 2006 FINAL EIR - CHAPTER 1 - INTRODUCTION AND EXECUTIVE SUMMARY

APPENDIX B

TRAFFIC IMPACTS ANALYSIS