

## **RESOLUTION NO. 66-14**

### **RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RICHMOND CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT, ADOPTING FINDINGS AND A MITIGATION MONITORING AND REPORTING PROGRAM FOR THE CHEVRON REFINERY MODERNIZATION PROJECT, DECIDING APPEAL(S) OF PLANNING COMMISSION RESOLUTION 14-11, AND APPROVING A MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY AND THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

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WHEREAS, Chevron Products Company, a division of Chevron U.S.A. Inc. ("Chevron") owns and operates the Chevron Richmond Refinery ("Facility"), located along the western edge of the City of Richmond ("City"), which Facility processes crude oil blends, externally sourced gas oils, and natural gas into a number of products, including motor gasoline, jet fuel, diesel fuel, and lubricant base oils, as well as fuel oil, liquefied petroleum gas, and sulfur; and

WHEREAS, in 2005, Chevron applied to the City for permits for the proposed Chevron Hydrogen and Energy Renewal Project ("2008 Project") at the Facility; and

WHEREAS, in 2008, the City certified the Chevron Hydrogen and Energy Renewal Project EIR Consolidated Volume ("2008 EIR") and approved design review and conditional use permits ("2008 Permits") for the 2008 Project; and

WHEREAS, following issuance of the 2008 Permits, Chevron began construction of certain portions of the 2008 Project; and

WHEREAS, in 2009, the Contra Costa Superior Court invalidated the 2008 EIR and associated 2008 Permits, and issued an injunction halting further construction; and

WHEREAS, following an appeal, in 2010, the California Court of Appeal affirmed in part and reversed in part the Superior Court decision and, on March 14, 2011, the Contra Costa Superior Court issued a writ of mandamus ordering that the 2008 EIR and 2008 Permits be set aside on certain grounds; and

WHEREAS, in 2011, the City Council of the City of Richmond ("Council") adopted Resolution 15-11 encouraging Chevron to resubmit its application; and

WHEREAS, on May 23, 2011, Chevron submitted an application to the City for a Conditional Use Permit ("CUP") for the Chevron Refinery Modernization Project ("Project" or "Modernization Project"), a smaller version of the 2008 Project; and

WHEREAS, in February 2014, Chevron submitted an application to the City for a Design Review Permit for the Project; and

WHEREAS, the Modernization Project consists of the modification, replacement, and installation of various equipment and structures at the Facility, including the Hydrogen Plant Replacement, Sulfur Removal Improvements, and emission-reducing Project Design Features, all as described in the Environmental Impact Report for the Chevron Refinery Modernization Project (State Clearinghouse No. 2011062042) ("EIR"), a project-level environmental impact report prepared pursuant to the California Environmental Quality Act ("CEQA"), specifically Public Resources Code sections 21165-21177 and CEQA Guidelines sections 15161. The EIR consists of a Draft Environmental Impact Report, Volumes 1 and 2A/2B ("Draft EIR") and a Final Environmental Impact Report (Responses to Comments and text revisions), Volumes 3A/3B and 4 ("Final EIR"); and

WHEREAS, on June 10, 2011, the City issued a Notice of Preparation ("NOP") of the EIR; and

WHEREAS, the NOP was circulated for comment by responsible and trustee agencies and the public for a total of 32 days, from June 10, 2011 through July 12, 2011, during which time the City held a public scoping meeting on June 22, 2011; and

WHEREAS, on March 18, 2014, the Draft EIR was circulated for public review through May 2, 2014, for a total of 45 days; and

WHEREAS, on April 2, 2014, the City convened two public workshops - one in the morning and one in the evening - to describe the Project and the Draft EIR and to permit members of the public to ask City staff and its EIR consultants questions about, and submit written comments concerning, the Draft EIR; and

WHEREAS, the April 3, 2014, the Planning Commission ("Commission") conducted a Draft EIR study session; and

WHEREAS, on April 17, 2014, the Commission held a public comment hearing on the Draft EIR; and

WHEREAS, on April 23 and April 30, 2014, the Design Review Board held two duly noticed public hearings to consider the Design Review Permit application and voted to recommend approval of the proposed Project's design to the Commission with certain recommended conditions; and

WHEREAS, on May 28, 2014, the City convened a public community workshop to receive recommendations from the public for health and wellness programs serving Richmond and the incorporated and unincorporated areas of North Richmond ("North Richmond") to be funded by Chevron in connection with the proposed Modernization Project; and

WHEREAS, the May 28, 2014 public workshop was attended by approximately 81 members of the public; and

WHEREAS, on June 3, 2014, the Council introduced Ordinance No. 12-14 (first reading), amending Section 3.20.080 of the Richmond Municipal Code ("RMC") to establish new procedures for matters previously considered by the Council that have been returned to the City for additional action by a court (the "Ordinance 12-14"); and

WHEREAS, during preparation of the Draft EIR and Final EIR, City staff and its EIR consultants had multiple meetings with the Attorney General's office to keep that office informed of the scope and content of the EIR, to receive comments on the EIR from the Attorney General's office and to incorporate EIR revisions recommended by the Attorney General's office that staff and the EIR consultants agreed were appropriate;

WHEREAS, on June 6, 2014, three days prior to publication of the Final EIR, the Attorney General's office submitted a letter recognizing with appreciation the City's willingness to discuss the EIR with the Attorney General's office, to reiterate its recommendations, and to document its understanding that the City would make changes to the Final EIR in response to discussions with the Attorney General's office; and

WHEREAS, in its discussions with the City prior to publication of the Final EIR, the Attorney General and other members of the public recommended that the Final EIR evaluate an alternative that combined the Reduced Sulfur Processing alternative and the Hydrogen Cap alternative evaluated in the Draft EIR; and

WHEREAS, in response to the Attorney General and other public comments received on the Draft EIR, the Final EIR included two new alternatives that both combine the Reduced Sulfur Processing alternative and a modified form of the Hydrogen Cap alternative; and

WHEREAS, one of the new alternatives included in the Final EIR is the Reduced Sulfur Processing/No Increase In Refinery Greenhouse Gas Emissions Alternative ("Preferred Alternative"); and

WHEREAS, the Preferred Alternative is sometimes colloquially known as, and is thus sometimes colloquially referred to in this matter's administrative record as, "Alternative 11," a name sometimes informally applied the Preferred Alternative because it is the eleventh alternative described in EIR and because it is analyzed in EIR, Volume 1, Section 6.5.11; and

WHEREAS, the Preferred Alternative is generally the same as the Modernization Project, except that it would enforceably restrict the Refinery's future physical greenhouse gas emissions so as not to exceed the average annual Baseline level (i.e., 4,602,947 metric tons per year). Also, the Preferred Alternative would limit sulfur removal to 750 long tons per day, which is 150 long tons higher than what is currently permitted, but only half of the 300 long tons capacity increase proposed by the Modernization Project. The Preferred Alternative assumes the same physical improvements associated with the proposed Modernization Project and would be constructed within the same development footprint as the proposed Modernization Project; and

WHEREAS, following the close of the public review period, the Final EIR was prepared which responds to the written and oral comments received during the public review period; and

WHEREAS, on June 9, 2014, the Final EIR Volumes 3A/B and 4, was issued for public review; and

WHEREAS, the Final EIR determined that, compared to the Modernization Project, the Preferred Alternative would reduce overall environmental impacts to a greater extent and, in this respect, is environmentally superior to the Modernization Project; and

WHEREAS, on June 12, 2014, the City convened a second public community workshop to review and receive further public input on a draft set of proposed programs (developed based on the input received at the May 28, 2014 workshop) to be funded by Chevron in connection with the proposed Modernization Project; and

WHEREAS, at the June 12 public workshop, approximately 21 members of public submitted oral comments and 6 members of the public submitted written comments; and

WHEREAS, the priorities identified as a result of the May 28 and June 12 public workshops and City review process were further evaluated, and identified as creating environment and community investment benefits for the communities closest to the Chevron Richmond Refinery (the City of Richmond, and North Richmond); and

WHEREAS, on June 17, 2014, the Council adopted (second reading) Ordinance No. 12-14; and

WHEREAS, on June 17, 2014, the Council adopted Resolution No. 58-14, which resolved that (i) the City Council will have original jurisdiction over the Project pursuant to Ordinance No. 12-14 as of July 17, 2014; (ii) that the Council will open a public hearing to hear public comment on the Project on July 22, 2014 and intends to take action on the Project on July 29, 2014 and not later than July 31, 2014; (iii) that, if the Commission issues a decision on the Project before July 17, 2014 and an appeal thereof is timely filed, the Council will decide any such appeal on or about July 29, concurrently with its own review of the Project under RMC section 3.20.080; and (iv) that, if the Commission does not issue a decision on the Project prior to July 17, 2014, the Council shall review the Project under RMC section 3.20.080 without any advisory recommendation from the Commission; and

WHEREAS, on June 20, 2014, following publication of the Final EIR, the Attorney General's office submitted to the City a follow up letter recognizing with appreciation the many revisions included in the Final EIR to respond to the Attorney General, and concluding that adoption of the Preferred Alternative, along with other improvements made in the Final EIR, "would resolve the AGO's [Attorney General's Office] concerns with the City's review and approval of this project[;]" and

WHEREAS, following publication of the Final EIR, Mitigation Measures 4.13-7 and 4.13-13 were revised to add clarifying language in response to communications with the Attorney General's Office; and

WHEREAS, on July 9 and 10, 2014, the Commission conducted duly noticed public hearings to consider certification of the EIR and Chevron's applications for a CUP and Design Review Permit for the Project; and

WHEREAS, on July 10, 2014, by way of Resolution 14-11, the Commission (i) certified that the EIR was completed in compliance with the California Environmental Quality Act, Public

Resources Code section 21000 *et seq.*, and the City of Richmond's Guidelines and Procedures for Implementation of CEQA, Resolution No. 125-03 (adopted September 23, 2003), and reflects the independent judgment of the City, (ii) adopted Findings Pursuant to Public Resources Code section 21081 that determined that the Preferred Alternative should be approved, rather than the Modernization Project, subject to those EIR mitigation measures required to reduce the Preferred Alternative's environmental effects to a less than significant level ("Commission CEQA Findings"), (iii) adopted a mitigation monitoring and reporting program for the Preferred Alternative and made the mitigation measures identified therein conditions of approval of the Preferred Alternative ("Commission MMRP"); and

WHEREAS, on July 10, 2014, by way of Resolution 14-12, the Commission (i) made findings pursuant to RMC sections 15.04.910.050.A, 15.04.820.025.B, and 15.04.930.110.A (ii) conditionally approved Conditional Use Permit and Design Review Permit Number PLN11-089 for the Preferred Alternative; (iii) recommending to the Council that the City enter into a fully-enforceable Environment and Community Investment Agreement for the benefit of residents of Richmond and North Richmond and that obligates Chevron to provide funding to the City in an amount to be determined by the Council as sufficient to fund the programs identified in Exhibit B of Resolution 14-12; and

WHEREAS, Planning Commission Resolution 14-12 approved Conditional Use Permit and Design Review Permit Number PLN11-089 subject to several conditions of approval, most of which were recommended by City staff, in addition to others added by the Commission as modified from recommended conditions by community organizations concerned about the proposed Modernization Project or aspects thereof; and

WHEREAS, pursuant to RMC section 15.04.980, a decision of the Commission on the Project made prior to the effective date of Ordinance No. 12-14 would be subject to a 10-day period for appeal to the Council, and

WHEREAS, on July 15, 2014, pursuant to RMC section 15.04.980, Chevron filed a timely appeal of the Commission's adoption of Resolution No. 14-11 on the basis that the EIR was limited to the Preferred Alternative and requesting the Council to certify the EIR, make Findings of Fact, and adopt a Mitigation Monitoring and Reporting Program for the Project as proposed rather than the Preferred Alternative; and

WHEREAS, on July 15, 2014, pursuant to RMC section 15.04.980, Chevron filed a timely appeal of the Commission's adoption of Resolution No. 14-12 on the basis that (i) the Commission approved a conditional use permit for the Preferred Alternative, rather than for the proposed Project; (ii) conditions of approval A7, B2, B3, B4, B5, B6, B9, B10, G3, H5, H7, H8, and H9 would create an unnecessary administrative burden for Chevron and the City, among other faults as described in a letter submitted by Chevron to the Commission on July 8, 2015 and incorporated into Chevron's appeal; and (iii) conditions of approval A11, B1, B7, B8, B10, B11, D3, D4, D5, G4, H10, H11, H12, and H13 lack a legal nexus or reasonable relationship to impacts of the Project, or would result in an unconstitutional taking, and therefore exceed the City's legal authority; and

WHEREAS, the City received letters following the close of the public review and comment period and, although pursuant to Public Resources Code section 20191(d)(1) and CEQA Guidelines section 15088(a), written responses are not required, the City nevertheless prepared responses in (i) a "Responses to Late-Received Comment Letters on the Chevron Modernization Project," which was provided to the Planning Commission as an attachment to the July 9, 2014 Staff Report, (ii) a "Responses to Additional Late-Received Comment Letters on the Chevron Modernization Project," which was provided to the Planning Commission as an attachment to the July 9, 2014 Supplemental Staff Report No. 1, (iii) a "Responses to Comments Filed on July 9, 2014 (Same Day as Planning Commission Hearing of July 9, 2014)," which was provided to the Planning Commission as an attachment to the July 9, 2014 Supplemental Staff Report No. 2, (iv) a "Responses to Late Comment Letters Received from the Richmond Progressive Alliance (July 9, 2014) and BNSF Railway Company (July 9, 2014), and Supplemental Responses to Late Comments Received from the Center for Biological Diversity (July 8, 2014) and Communities for a Better Environment (July 9, 2014)," which was provided to the City Council as an attachment to the July 22, 2014 Staff Report, (v) a "Responses to comments received since publication of the July 22, 2014 City Council Agenda Report concerning the Chevron

Modernization Project Matter," which was provided to the City Council as an attachment to the July 29, 2014 Supplemental Staff Report; and

WHEREAS, as explained in the EIR, the Bay Area Air Quality Management District ("BAAQMD") will assist the City with respect to implementation of aspects of the Project's Mitigation Monitoring and Reporting Program to assure that certain of its measures achieve the "No Net Increase" outcomes for air emissions, greenhouse gases, and health risks from release of toxic air contaminants; and

WHEREAS, the City, BAAQMD and Chevron desire to enter into a Memorandum of Understanding regarding the parties implementation and monitoring of aspects of the Project's Mitigation Monitoring and Reporting Program; and

WHEREAS, the EIR and all documents incorporated therein have been presented to the City Council and the City Council has reviewed and considered the information contained in the EIR; and

WHEREAS, pursuant to RMC sections 3.20.80 and 15.04.980.030, the Council held a duly noticed public hearing on July 22, 2014, continued to July 29, 2014, to consider Chevron's appeal of Resolutions 14-11 and 14-12, and to consider certification of the EIR and Chevron's application for a Conditional Use Permit and Design Review Permit for the Modernization Project; and

WHEREAS, the Council, has reviewed the application, plans, and materials submitted for the Modernization Project and Preferred Alternative, the recommendations of the Design Review Board, all information received orally and in writing at or before the Commission's public hearing on the Project and all information related to the Commission's approval of Resolutions 14-11 and 14-12 and appeals thereof, and all information received orally and in writing at or before the public hearings; and

WHEREAS, the City Council has determined that the Preferred Alternative is environmentally superior to the Project.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RICHMOND, having independently reviewed and considered the potential environmental effects of the Chevron Refinery Modernization Project and its alternatives as analyzed in the EIR:

1. The City Council hereby denies in part, and grants in part, the appeal of Chevron and reverses and supersedes the Commission decision to certify the EIR, adopt the Commission CEQA Findings, and adopt the Commission MMRP as set forth in Resolution 14-11.
2. The City Council hereby certifies that the EIR for the Chevron Refinery Modernization Project has been completed in compliance with the California Environmental Quality Act, Public Resources Code Section 21000 et seq., and the City of Richmond's Guidelines and Procedures for Implementation of CEQA, Resolution No. 125-03 (adopted September 23, 2005), and reflects the independent judgment and analysis of the City.
3. The City Council hereby adopts the Findings Pursuant to Public Resources Code section 21081 for the Chevron Refinery Modernization Project ("CEQA Findings"), attached hereto as "Exhibit A."
4. The City Council hereby adopts and makes conditions of approval of the Chevron Refinery Modernization Project and any alternative thereto all of the mitigation measures that are within the responsibility and jurisdiction of the City that are identified in the CEQA Findings.
5. The City Council further finds that recirculation of the EIR is not required in response to the appeal of Chevron because the appeal does not contain significant new information which discloses that a new significant environmental impact would result from the Project or its alternatives or from a new mitigation measure proposed to be implemented,

that a substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance, that a feasible mitigation measure or alternative considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the Project but the City declines to adopt it, or that the Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

6. The City Council hereby adopts the Mitigation Monitoring and Reporting Program for the Chevron Refinery Modernization Project, attached hereto as "Exhibit B."
7. The Council hereby approves, and directs the City Manager to execute, the Memorandum of Understanding between City, BAAQMD, and Chevron in substantially the same form attached hereto as "Exhibit C."

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I certify that the foregoing resolution was passed and adopted by the Council of the City of Richmond, California at a special meeting thereof held July 29, 2014, by the following vote:

AYES: Councilmembers Bates, Boozé, Butt, Myrick, Rogers, Vice Mayor Beckles, and Mayor McLaughlin.

NOES: None.

ABSENT: None.

ABSTENTION: None.

DIANE HOLMES  
CLERK OF THE CITY OF RICHMOND

(SEAL)

Approved:

GAYLE MCLAUGHLIN  
Mayor

Approved as to form:

BRUCE GOODMILLER  
City Attorney

State of California     }  
County of Contra Costa     : ss.  
City of Richmond     }



**Certified as a True Copy**

DIANE HOLMES  
CLERK OF THE CITY OF RICHMOND, CALIF

BY *[Signature]*  
DEPUTY

I certify that the foregoing is a true copy of **Resolution No. 66-14**, finally passed and adopted by the City Council of the City of Richmond at a special meeting held on July 29, 2014.

## **Exhibit A**

# **FINDINGS OF FACT IN SUPPORT OF DETERMINATIONS RELATING TO SIGNIFICANT ENVIRONMENTAL IMPACTS FOR THE CHEVRON MODERNIZATION PROJECT**

## **State CEQA Guidelines Section 15091**

**Chevron Modernization Project by Chevron Products Company, a  
division of Chevron U.S.A. Inc.**

Adoption of Conditional Use Permit and Design Review Permit # PLN11-089

**Final Environmental Impact Report  
(SCH #2011062042)  
Lead Agency: City of Richmond, California**

## Section I. Introduction

The following findings of fact (collectively, the CEQA Findings) are based in part on the information contained in the Chevron Modernization Project Environmental Impact Report (SCH #2011062042) (the "EIR"). The EIR consists of a Draft Environmental Impact Report, Volumes 1 and 2A/2B ("Draft EIR") and a Final Environmental Impact Report (Responses to Comments and text revisions), Volumes 3A/3B and 4 ("Final EIR"). The EIR is hereby incorporated by reference and is available for review, along with the balance of the record of proceedings, at the City of Richmond, Planning and Building Services Department, City Hall, 450 Civic Center Plaza, Richmond, CA, 94804.<sup>1</sup>

Public Resources Code section 21002 provides that “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]” The same statute provides that the procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.” Section 21002 goes on to provide that “in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.”

The mandate and principles announced in Public Resources Code section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. For each significant environmental effect identified in an EIR for a project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. The second permissible finding is that such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding, and such changes have been adopted by such other agency or can and should be adopted by such other agency. The third potential conclusion is that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR. (CEQA Guidelines, § 15091.) Public Resources Code section 21061.1 defines “feasible” to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, legal, and technological factors.” CEQA Guidelines section 15364 adds another factor: “legal” considerations. (See also *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 565 (*Goleta II*).

The concept of “feasibility” also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 (*City of Del Mar*); *Sierra Club v. County of*

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<sup>1</sup> Unless otherwise specified, capitalized terms referenced herein are defined in the EIR.

*Napa* (2004) 121 Cal.App.4th 1490, 1506-1509 [court upholds CEQA findings rejecting alternatives in reliance on applicant’s project objectives]; see also *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001 (CNPS) [“an alternative ‘may be found infeasible on the ground it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record’”] (quoting *Kostka & Zischke, Practice Under the Cal. Environmental Quality Act* [Cont.Ed.Bar 2d ed. 2009] (*Kostka*), § 17.39, p. 825); *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165, 1166 (*Bay-Delta*) [“[i]n the CALFED program, feasibility is strongly linked to achievement of each of the primary project objectives”; “a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal”].) Moreover, “‘feasibility’ under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.” (*City of Del Mar, supra*, 133 Cal.App.3d at p. 417; see also *CNPS, supra*, 177 Cal.App.4th at p. 1001 [“an alternative that ‘is impractical or undesirable from a policy standpoint’ may be rejected as infeasible”] [quoting *Kostka, supra*, § 17.29, p. 824]; *San Diego Citizenry Group v. County of San Diego* (2013) 219 Cal.App.4th 1, 17.)

For purposes of these findings (including the table described below), the term “avoid” refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less than significant level. Although CEQA Guidelines section 15091 requires only that approving agencies specify that a particular significant effect is “avoid[ed] or substantially lessen[ed],” these findings, for purposes of clarity, in each case will specify whether the effect in question has been “avoided” (i.e., reduced to a less than significant level).

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such changes are infeasible or where the responsibility for modifying the project lies with some other agency. (CEQA Guidelines, § 15091, subd. (a), (b).)

With respect to a project for which significant impacts are not avoided or substantially lessened, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project’s “benefits” rendered “acceptable” its “unavoidable adverse environmental effects.” (CEQA Guidelines, §§ 15093, 15043, subd. (b); see also Pub. Resources Code, § 21081, subd. (b).) The California Supreme Court has stated, “[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced.” (*Goleta II, supra*, 52 Cal.3d at p. 576.) The EIR for the Project concluded the Project would not create any significant and unavoidable impacts; thus, no Statement of Overriding Considerations is required.

These findings constitute the City’s best efforts to set forth the evidentiary and policy bases for its decision to approve the Project in a manner consistent with the requirements of CEQA. To

the extent that these findings conclude that various mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, the City hereby binds itself to implement these measures. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when the City adopts a resolution approving the Project.

In addition, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the Project, and is being approved by the City Council by the same Resolution that has adopted these findings. The City will use the MMRP to track compliance with Project mitigation measures. The Mitigation Monitoring and Reporting Program will remain available for public review during the compliance period. The Final Mitigation Monitoring and Reporting Program is attached to and incorporated into the environmental document approval resolution and is approved in conjunction with certification of the EIR and adoption of these Findings of Fact.

## **Section II. Findings Regarding the Potential Environmental Effects of the Proposed Project**

The Applicant has requested City of approval of a Conditional Use Permit and Design Review Permit to permit implementation of the proposed Modernization Project. The Modernization Project would complete construction and begin operation of a new hydrogen plant (the Hydrogen Plant Replacement) and various improvements that would provide the Facility the flexibility to process feedstocks with a higher sulfur content than is currently processed at the Facility (the Sulfur Removal Improvements). The Project would also construct related infrastructure improvements to Facility piping, utility lines, and electrical systems.

The Modernization Project includes several integral equipment components that would reduce air emissions from Facility operations (the Emission Reduction Project Components) and Project Design Features proposed to avoid or minimize environmental impacts. The Project also proposed various Facility modifications that would improve Facility safety and reliability and, in combination with other emission reduction measures, would further reduce the Facility's post-Project toxic air contaminant (TAC) emissions. Reducing Project emissions would help meet Chevron's commitment of assuring that the Project would cause "no net increase" in emissions of criteria air pollutants (CAPs), greenhouse gases, and public health risks in residential areas from TACs, when compared to the Facility emissions and operations that occurred during the baseline period of 2008 through 2010. A detailed description of the major Modernization Project components—including the Hydrogen Plant Replacement, Sulfur Removal Improvements, Emission Reduction Project Components, Reliability Project Components, and the Project Design Features—is set forth in EIR, *Volume 1, Section 3.3, Modernization Project Components*, below. Each Project component is listed in Table 3-1, appearing in EIR, *Volume 1, Section 3.3*.

Because Facility impacts such as air emissions correlate to Facility utilization levels (i.e., higher utilization means greater throughput, and higher air emissions from "full" process units), the EIR evaluates Modernization Project impacts under two Facility utilization scenarios:

- First, the EIR analyzes post-Project Facility operations on the basis of a reasonably foreseeable highest utilization scenario (93% Utilization Scenario) that assumes that certain primary process units would operate at an average annual rate of 93% of their maximum permitted capacity, under the post-Project revised Title V permit limits. This 93% Utilization Scenario is the highest average annual utilization rate for refineries in the Western United States from 1985, and it represents an increase from the 88.6% utilization of the Facility's crude unit that occurred during the 2008 through 2010 baseline period and other recent years. Accordingly, the 93% Utilization Scenario represents a reasonably foreseeable post-Project utilization rate at the Facility. The 93% Utilization Scenario includes 100% utilization of the hydrogen plant.
- Second, the EIR analyzes the post-Project Facility operations on the basis of full utilization, or a 100% Utilization Scenario. This scenario assumes Facility units that process crude oil blends and externally sourced gas oil would operate at all times up to their maximum permitted capacity following implementation of the Modernization Project. The 100% Utilization Scenario also includes 100% utilization of the hydrogen plant.

For environmental impact topics that correlate to utilization rates, such as air quality, the EIR compares the environmental effects of the Project from the 93% and 100% Utilization Scenarios to the 2008-2010 baseline period emissions. EIR, *Volume 1, Section 4.0, Introduction to Chapter and Methodology* and *Volume 2, Appendix 4.3-URM, Unit Rate Model* provide further description of the baseline period utilization and the 93% and 100% Utilization Scenarios. A detailed description of the crude oil blends and gas oils processed at the Facility during the baseline period, and a discussion of methodology used for analyzing the potential environmental effects of processing post-Project crude oil blends and gas oils, are provided in EIR, *Volume 1, Section 4.3, Air Quality*, and *Volume 2, Appendix 4.3-URM, Unit Rate Model*.

On June 10, 2011, the City circulated a Notice of Preparation (NOP) to the public, local, state and federal agencies, and other known interested parties for a 30-day public and agency review period, in accordance with CEQA Guidelines Section 15802. The purpose of the NOP was to provide notification that an EIR for the Modernization Project was being prepared, and to solicit public input on the scope and content of the document. Additionally, the NOP was sent to the State Clearinghouse.

Pursuant to CEQA Guidelines Section 15082, the City held a scoping meeting for the EIR on June 22, 2011 at the City Council Chambers. Agencies and members of the public were invited to attend and provide input on the scope of the EIR. Comments from agencies and the public provided at the scoping meeting and in written comments submitted in response to the NOP are included within EIR *Volume 2, Appendix 1*. Significant issues raised during the scoping process are summarized in EIR, *Volume 1, Section 1.6.1*.

The Draft EIR was made available for public review on March 18, 2014, and distributed to applicable local and state agencies. The 45-day public comment period for the Draft EIR ended on May 2, 2014. Two public workshops were held on April 2, 2014; one during the day and one at night. Attendees were able to hear a presentation on the contents of the Draft EIR and then discuss their questions and concerns with the Project staff and EIR preparers. Attendees were

provided comment cards and invited to provide written comments on the Draft EIR. Oral comments were not recorded or accepted during these workshops.

The City of Richmond Planning Commission held a meeting on April 17, 2014 to accept comments on the Draft EIR and the Design Review Board held two hearings (April 23 and 30, 2014) where the Draft EIR was discussed. Copies of all written comments received during the comment period and transcripts of verbal comments received at the Planning Commission comment hearing and the Design Review Board hearings that related to the adequacy of the Draft EIR are included in EIR, *Volume 3, Appendix 2*. The City also held two community workshops to discuss community health and safety benefits on May 28, 2014 and June 12, 2014. The Final EIR was published on June 9, 2014. The Final EIR contains responses to all timely submitted comments raising significant environmental issues regarding the Draft EIR.

For the purposes of CEQA, and the findings herein set forth, the administrative record for the Project consists of those items listed in Public Resources Code section 21167.6, subdivision (e). The record of proceedings for the City's decision on the Project consists of the following documents, at a minimum, which are incorporated by reference and made part of the record supporting these findings:

- The NOP and all other public notices issued by the City in conjunction with the Project;
- The Draft EIR for the Project and all documents relied upon or incorporated by reference;
- All comments submitted by agencies or members of the public during the 45-day comment period on the Draft EIR;
- All comments and correspondence submitted to the City during the public comment period on the Draft EIR, in addition to all other timely comments on the Draft EIR;
- The Final EIR for the Project, including the Planning Commission staff report, minutes of the Planning Commission public hearing; City Council staff report; minutes of the City Council public hearing; comments received on the Draft EIR; the City's responses to those comments; technical appendices; and all documents relied upon or incorporated by reference;
- The mitigation monitoring and reporting program (MMRP) for the Project;
- All findings and resolutions adopted by the City in connection with the Project, and all documents cited or referred to therein;
- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Project prepared by the City, consultants to the City, or responsible or trustee agencies with respect to the City's compliance with the requirements of CEQA and with respect to the City's action on the Project;
- All documents submitted to the City by other public agencies or members of the public in connection with the Project, up through the close of the public hearing;
- Any minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by the City in connection with the Project;
- Any documentary or other evidence submitted to the City at such information sessions, public meetings and public hearings;
- All resolutions adopted by the City regarding the Project, and all staff reports, analyses, and summaries related to the adoption of those resolutions;

- The City's General Plan and applicable Specific Plans and all updates and related environmental analyses;
- Matters of common knowledge to the City, including, but not limited to Federal, State, and local laws and regulations;
- The City's Zoning Code;
- Any documents expressly cited in these findings, in addition to those cited above; and
- Any other materials required for the record of proceedings by Public Resources Code section 21167.6, subdivision (e).

Pursuant to Guidelines section 15091(e), the administrative record of these proceedings is located at, and may be obtained from, City of Richmond, Planning and Building Services Department, City Hall, 450 Civic Center Plaza, Richmond, CA, 94804. The custodian of these documents and other materials is City of Richmond, Planning and Building Services Department.

The City has relied on all of the documents listed above in reaching its decisions on the proposed project even if not every document was formally presented to the City Council or City Staff as part of the City files generated in connection with the Project. Without exception, any documents set forth above not found in the Project files fall into one of two categories. Many of them reflect prior planning or legislative decisions of which the City Council was aware in approving the Project. (See *City of Santa Cruz v. Local Agency Formation Commission* (1978) 76 Cal.App.3d 381, 391-391; *Dominey v. Department of Personnel Administration* (1988) 205 Cal.App.3d 729, 738, fn. 6.) Other documents influenced the expert advice provided to City Staff or consultants, who then provided advice to the Planning Commission and the City Council as final decisionmakers. For that reason, such documents form part of the underlying factual basis for the City's decisions relating to approval of the Project. (See Pub. Resources Code, § 21167.6, subd. (e)(10); *Browning-Ferris Industries v. City Council of City of San Jose* (1986) 181 Cal.App.3d 852, 866; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153, 155.)

Based upon the evidence before it, the City finds that the Modernization Project will result in no "significant and unavoidable impact." Therefore, a statement of overriding considerations is not required. In other words, the City need not consider whether overriding economic, social, and other considerations outweigh the significant, unavoidable effects of the Project, because the Project simply will not create any significant unavoidable effects. With respect to all impacts identified in the EIR as having "no impact," or "a less than significant impact," the City finds that those impacts have been described accurately, and have "no impact" or have an impact that is "less than significant," as follows:

## **Aesthetics, Visual Quality, Light And Glare**

### ***A. Environmental Effects Of The Project Found To Have No Impact on the Environment, or Have a Less Than Significant Impact On The Environment.***

As discussed in EIR, *Volume 1, Section 4.1.3.3*, the Project would not cause a significant adverse impact on a scenic vista because the City has not formally designed any scenic vistas and the Project would not be visible from San Francisco and San Pablo Bays. Development of the

Project would occur almost entirely within the developed portion of the Project site and would not affect any known scenic resource. As discussed in EIR, *Volume 1, Chapter 4, Section 4.1, Impact 4.1-1*,<sup>2</sup> the Modernization Project would add new equipment and facilities in developed, industrial portions of the Project site. The new equipment would represent a minor incremental visual change compared to the size and extent of existing Facility equipment and will therefore be less than significant. In addition, the Project will not increase the frequency or magnitude of flaring events at the Facility. The Project could create water vapor plumes visible to surrounding residents and motorists as a function of varying local meteorological conditions and variation in the Facility process. However, due to the small size of the water vapor plumes and the fact that plumes become visible in atmospheric conditions that cause fog and high humidity, minimizing their contrast, as well as causing existing plume activity, the aesthetic impact of the plumes will be less than significant. Likewise, the Project would introduce new lighting on the Project site and replace existing lighting with LED lighting, but the changes will not significantly alter existing light and glare conditions and the impact will be less than significant and requires no mitigation.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

As discussed above, the visual changes that would result from the Modernization Project will be consistent with the character of the existing Facility and the general setting, will not substantially alter the visual character of the Facility, and will have no significant adverse aesthetic, visual quality, light or glare impacts. Accordingly, the Modernization Project, together with past, present, existing, pending, and reasonably foreseeable future projects will not result in cumulatively considerable aesthetic, visual quality, light or glare impacts.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

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<sup>2</sup> Hereafter, all references to the capitalized term "Impact" followed by a number (e.g., "Impact 4.1-1") are to analyses of the Project's various potentially significant impacts (each of which has been assigned an "Impact" number in the EIR), as set forth in EIR, *Volume 1, Chapter 4* (and in EIR, *Volume 3, Chapter 4*, to the extent any such discussion was revised in the Final EIR). As used in these Findings, references to an "Impact" number are intended to direct the reader to that portion of the EIR containing the primary analysis of that numbered impact, although such analysis may be clarified or referenced in other sections of the EIR incorporated herein by reference. By way of example, the term "Impact 4.1-1" refers to the first impact analyzed in EIR, Volume 1, Chapter 4, Section 4.1, whereas "Impact 4.1-2" refers to the second impact analyzed in EIR, Volume 1, Chapter 4, Section 4.1.

None.

***F. Cumulative Effects Of The Proposed Project That That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Agricultural Resources**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As explained in EIR, *Section 4.2.3.3*, the Modernization Project does not have potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use because the Project site and adjacent lands do not contain these special lands. Similarly, the Project site and adjacent lands do not contain agricultural areas under cultivation (or land classified as valuable agricultural land) and thus the Modernization Project will not result in the conversion of these lands to non-agriculture use. Additionally, because none of the Project site or any adjacent properties are covered by a Williamson Act contract or zoned for agricultural uses and because no agricultural zoning revisions are proposed, the Modernization Project would not interact with or conflict with existing agricultural zoning or a Williamson Act contract. Finally, because the Modernization Project also does not involve forest land or timberland or any zoning revisions, it would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and will not convert forest land to non-forest use.

As discussed in EIR, *Volume 1, Section 4.2.4*, the Facility has been in operation since 1902, and does not contain any agricultural or forestry timber resources. Additionally, the Modernization Project would be developed and implemented primarily within the boundaries of the Project site and thus would not involve new physical development affecting existing or planned agricultural activities, or on priority agricultural resource lands. Development on the Project site would not result in the conversion of existing agricultural land to non-agricultural use or conversion of forest land to non-forest use. Therefore, the Project will not result in a significant adverse impact and no mitigation is necessary.

Although there are some greenhouse nurseries located within 1 mile of the Project site boundaries, these agricultural operations occur indoors within greenhouses, are not dependent on prime agricultural soils, and are not designated as agricultural lands by the General Plan 2030 or State farmland maps. Therefore, the Modernization Project would result in no significant adverse impacts to agricultural or forestry resources and no mitigation is necessary.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

**C. *Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

**D. *Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

As noted above, development of the Modernization Project would not result in the conversion of existing agricultural land to non-agricultural use or conversion of forest land to non-forest use. A small portion of land, five miles from the Project site, is designated Agricultural in the General Plan 2030, is not considered valuable farmland, and is not included in the state farmland resource map. Further, there are no areas within the City designated for forestry resource by the General Plan 2030. Accordingly, the Modernization Project, together with past, present existing, pending, and reasonably foreseeable future projects, would not result in significant cumulative impacts on agriculture and forestry resources.

**E. *Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

**F. *Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Air Quality**

**A. *Environmental Effects Of The Project Found To Have No Impact on the Environment, or Have a Less Than Significant Impact On The Environment.***

As explained in *Impact 4.3-3*, future construction activities associated with the Modernization Project would generate short-term emissions of particulate matter less than 10 microns (PM<sub>10</sub>) and particulate matter less than 2.5 microns (PM<sub>2.5</sub>), but such emissions would be nominal, below the BAAQMD threshold of significance, and, while not required by CEQA, would be further reduced by the following improvement measures that Chevron will implement as a condition of approval to further reduce this already less-than-significant impact:

**Improvement Measure 4.3-3:** The Modernization Project shall implement reasonable and prudent practices to reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions from construction equipment to further reduce this less-than-significant impact. Such practices may include, but are not limited to, the following:

3a: Idling time of diesel-powered construction equipment shall be minimized.

3b: Off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) shall be newer, since

newer equipment may achieve a Project-wide fleet-average 20% NO<sub>x</sub> reduction, and 45% PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

- 3c: All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NO<sub>x</sub> and PM.
- 3d: Contractors should use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

As explained in *Impact 4.3-4*, future construction activities associated with the Project would result in toxic air contaminant (TAC) emissions, but such emissions would be below the BAAQMD threshold of significance and would not result in a significant environmental effect requiring mitigation.

As explained in *Impact 4.3-2* and EIR, *Volume 1, Appendix 4.3-CST*, future construction activities associated with the Project would result in nominal levels of sulfur oxide (SO<sub>x</sub>) and carbon monoxide (CO) emissions and would not result in significant environmental effect requiring mitigation.

As explained in *Impact 4.3-9*, the Modernization Project would not conflict with or obstruct implementation of the applicable air quality plan - *i.e.*, the 2010 Bay Area Clean Air Plan - and therefore this potential impact would be less than significant.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

**Potential Significant Effect**

As explained in *Impact 4.3-1*, without mitigation, construction of the Modernization Project could result in potentially significant, localized construction dust-related air quality impacts.

**Summary of Specific Impact**

Project-related demolition, excavation, soil stockpiling and handling, and other construction activities may generate wind-blown dust (including PM<sub>10</sub> and PM<sub>2.5</sub>). Construction-related dust emissions would vary from day-to-day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, dust generated from construction activities may result in significant adverse impacts on a temporary and intermittent basis during the Project construction period.

**Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.3-1:** All remaining construction activities for the Modernization Project shall comply with the following Bay Area Air Quality Management District (BAAQMD) construction mitigation measures:

1a: All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12%. Moisture content can be verified by lab samples or moisture probe.

1b: All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour.

1c: Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.

1d: Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

1e: The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.

1f: All trucks and equipment, including their tires, shall be washed off prior to leaving the site.

1g: Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.

1h: Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.

1i: All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

1j: All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited.

1k: All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.

1l: All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

1m: Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.

1n: All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

1o: A publicly visible sign shall be posted providing the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

The 2010 BAAQMD CEQA Guidelines note that best management practices described in Mitigation Measures 4.3-1a through 4.3-1o, above, have been shown to reduce fugitive dust by anywhere from 30% to more than 90%, and conclude that the projects that implement such construction best management practices will reduce fugitive dust emissions to a less than significant level. Implementation of the emission control measures described in Mitigation Measures 4.3-1a through 4.3-1o above would reduce the impact of construction dust-related air quality impacts to a less-than-significant level.

### **Potential Significant Effect**

As explained in *Impact 4.3-2*, without mitigation, future construction activities associated with the Project would generate short-term emissions of ozone precursors (i.e., oxides of nitrogen [NO<sub>x</sub>] and reactive organic gases [ROGs]) that would exceed BAAQMD significance thresholds.

### **Summary of Specific Impact**

Emission levels for construction activities could vary day-to-day depending on the number and types of equipment, duration of use, operation schedules, and the number of construction workers. When considered in the context of long-term Project operations, construction-related NO<sub>x</sub> and ROG emissions would be temporary, but these activities could cause potentially significant adverse impacts on local air quality.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.3-2a:** Chevron shall reduce construction-related NO<sub>x</sub> emissions to less-than-significant levels by implementing one or more of the following feasible mitigation measures, all of which have been found to result in emissions reduction for construction projects:

- Using lower emitting construction equipment, increasing carpooling or otherwise reducing construction-worker automobile use in daily commutes, extending the duration of construction by 1 year by delaying the modifications required to increase the throughput capacity of the FCC FHT until after construction of the hydrogen plant and amine contactor, or reducing the hours of use of construction equipment;
- Reducing operations and/or emissions from portable generators at the Facility during the construction period, and thereby reducing NO<sub>x</sub> emissions;
- Installing the low-NO<sub>x</sub> burners included in the Modernization Project in the first 6 months of the construction period, thereby reducing net NO<sub>x</sub> emissions from the Facility while construction of the Modernization Project continues;
- Retiring permanent NO<sub>x</sub> emission reduction credits to offset this temporary NO<sub>x</sub> construction increase, in an amount sufficient to offset construction period NO<sub>x</sub> emissions; or
- Implementing a combination of two or more of the above measures, in an amount sufficient to offset construction-period NO<sub>x</sub> emissions to less-than-significant levels.

**Mitigation Measure 4.3-2b:** Chevron shall reduce construction-related ROG emissions to less-than-significant levels by implementing one or more of the following feasible mitigation measures, all of which have been found to result in emissions reduction for construction projects:

- Installing the tank dome Project Design Feature, and installing one additional tank dome, in the first 6 months of Project construction, thereby reducing net ROG emissions from the Facility before completing construction of the hydrogen plant or sulfur removal components of the Modernization Project;
- Using lower emitting construction equipment, increasing carpooling or otherwise reducing construction-worker automobile use in daily commutes, extending the

duration of construction by 1 year by delaying the modifications required to increase the throughput capacity of the FCC FHT until after construction of the hydrogen plant and amine contactor, or reducing the hours of use of construction equipment;

- Retiring permanent ROG emission reduction credits to offset this temporary ROG construction increase, in an amount sufficient to offset construction-period ROG emissions; or
- Implementing a combination of the above measures, in an amount sufficient to offset construction-period ROG emissions to less-than-significant levels.

Implementation of Mitigation Measures 4.3-2a and 4.3-2b above would reduce and offset the Project's construction-related NO<sub>x</sub> and ROG emissions to a less than significant level through a combination of emission control measures and the permanent retirement of emission reduction credits.

### **Potential Significant Effect**

As explained in *Impact 4.3-5*, without mitigation, under some Project scenarios, operation of the Modernization Project would result in criteria air pollutant (CAP) emissions that would exceed BAAQMD significance thresholds.

### **Summary of Specific Impact**

As explained in *Impact 4.3-5*, under most operational scenarios, the Project's operational NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>x</sub> emissions would actually be lower, without mitigation, even when the Facility is operated at a 93% utilization level, substantially higher than the 89% utilization level that characterized the Baseline period. However, the Project's operational NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and sulfur oxide (SO<sub>x</sub>) emissions would be higher than Baseline under most 100% utilization scenarios, and warrant further mitigation to be below BAAQMD significance thresholds and achieve the "no net increase" Project objective. As further explained in *Impact 4.3-5*, without mitigation, the Project's operational emissions of carbon monoxide (CO) would not exceed BAAQMD significance thresholds under any Project scenario, but would exceed Baseline levels and thus warrant further mitigation to achieve the "no net increase" Project objective. The Project's operational emission and reactive organic gas (ROG) would be higher than Baseline levels under all scenarios, and warrant further mitigation to below BAAQMD significance thresholds and achieve the "no net increase" Project objective.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level and achieve the "no net increase" Project objective.

**Mitigation Measure 4.3-5:** Chevron shall implement feasible mitigation measures to reduce CAP emissions below applicable BAAQMD significance thresholds and to ensure no net increase in Project CAP emissions over Baseline levels, as follows:

5a: NO<sub>x</sub> Mitigation. Chevron shall implement the following measures in an amount sufficient to reduce NO<sub>x</sub> emissions to below the BAAQMD NO<sub>x</sub> significance threshold and to ensure no net increase in Project NO<sub>x</sub> emissions above Baseline NO<sub>x</sub> emission levels:

(i) Chevron shall increase the average parcel size—the average ship cargo volume that is delivered or picked up from the Long Wharf—to reduce the number of ship calls, and thereby reduce NO<sub>x</sub> emissions from shipping.

(ii) Chevron shall fund and require installation of cleaner main and auxiliary engines on up to six tug boats serving the Long Wharf. Tugs are used to push barges, escort ships and barges, and assisting ships and barges into berths. Chevron shall fund the installation of new, cleaner Tier 4 main engines and Tier 3 auxiliary engines for the number of tugs required to remain below the BAAQMD NO<sub>x</sub> significance threshold, and achieve the mandatory requirement that there be no net increase in Project NO<sub>x</sub> emissions above Baseline NO<sub>x</sub> emission levels.

(iii) If, after implementing Mitigation Measures 4.3-5(a)(i) and 4.3-5(a)(ii), either Project NO<sub>x</sub> emissions have not been reduced below the BAAQMD NO<sub>x</sub> significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to fully offset Project NO<sub>x</sub> emissions to Baseline levels on a net basis.

(iv) If, after implementing Mitigation Measure 4.3-5(a)(iii), above, Project NO<sub>x</sub> emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project NO<sub>x</sub> emissions are reduced to Baseline levels on a net basis.

5b: PM<sub>10</sub> Mitigation. Chevron shall implement the following feasible mitigation measures in an amount sufficient to reduce PM<sub>10</sub> emissions to below the BAAQMD significance thresholds and ensure no net increase in Project PM<sub>10</sub> emissions above Baseline PM<sub>10</sub> emission levels:

(i) Chevron shall increase the size of the Fluid Catalytic Cracking Electrostatic Precipitator (ESP) by approximately 50% to eliminate an existing NH<sub>3</sub> injection process in the flue gas in the Fluid Catalytic Cracking unit.

(ii) If, after implementing Mitigation Measure 4.3-5b(i), above, PM<sub>10</sub> emissions have not been reduced below the BAAQMD significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project PM<sub>10</sub> emissions to Baseline levels on a net basis.

(iii) If, after implementing Mitigation Measure 4.3-5(b)(ii), above, Project PM<sub>10</sub> emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project PM<sub>10</sub> emissions are reduced to Baseline levels on a net basis.

5c: PM<sub>2.5</sub> Mitigation. Chevron shall reduce PM<sub>2.5</sub> emissions to below BAAQMD significance thresholds, and to emission levels that ensure no net increase in Project PM<sub>2.5</sub> emission above Baseline PM<sub>2.5</sub> emissions, by implementing Mitigation Measure 4.3-5b (PM<sub>10</sub>), which would also reduce PM<sub>2.5</sub> emissions. Additionally, Chevron shall complete a validation study quantifying the relative amount of PM<sub>2.5</sub> reductions achieved by Mitigation Measure 4.3-5b, for review and approval by BAAQMD and the City, to ensure that adequate quantities of PM<sub>2.5</sub> reductions are achieved as required by this Mitigation Measure 4.3-5c. Finally, Chevron shall implement Mitigation Measure 4.3-6, to reduce health risks from all TACs, including but not limited to PM<sub>2.5</sub>, below the BAAQMD significance thresholds for cancer, and chronic or acute non-cancer risks, and as necessary to ensure no net increase in health risks from all TACs.

5d: SO<sub>x</sub> Mitigation. Chevron shall implement the following feasible mitigation measures in an amount sufficient to reduce SO<sub>x</sub> emissions to below the BAAQMD significance thresholds and to ensure no net increase in Project SO<sub>x</sub> emissions above Baseline SO<sub>x</sub> emissions:

(i) Chevron shall increase the use of SO<sub>x</sub> reducing catalyst in the Fluid Catalytic Cracking unit that has been demonstrated to substantially reduce SO<sub>x</sub> emissions in refinery flue gases.

(ii) If, after implementing Mitigation Measure 4.3-5d(i), above, SO<sub>x</sub> emissions have not been reduced below the BAAQMD significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project SO<sub>x</sub> emissions to Baseline levels on a net basis. Permanent retirement of emission reduction credits would ensure that these banked emissions cannot occur within Richmond or elsewhere in the Bay Area.

(iii) If, after implementing Mitigation Measure 4.3-5(d)(ii), above, Project SO<sub>x</sub> emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project SO<sub>x</sub> emissions are reduced to Baseline levels on a net basis.

5e: CO Mitigation. Chevron shall implement the following feasible mitigation measures to ensure no net increase in Project CO emissions above Baseline CO emission levels:

(i) Chevron shall reduce CO emissions to achieve the mandatory requirement that there be no net increase in Project CO emissions above Baseline CO emissions, by retiring

BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project CO emissions to Baseline levels on a net basis.

(ii) If, after implementing Mitigation Measure 4.3-5(e)(ii), above, Project CO emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project CO emissions are reduced to Baseline levels on a net basis.

5f: ROG Mitigation. Chevron shall complete the following feasible mitigation measures to reduce ROG emissions to below the BAAQMD significance thresholds and to ensure no net increase in Project ROG emissions above Baseline ROG emissions:

(i) Prior to the commencement of Project operations, Chevron shall install a tank dome on Tank 3225;

(ii) Within 3 years following the commencement of Project operations, Chevron shall install tank domes on Tanks 3189 and 3202;

(iii) Following the third anniversary of the commencement of Project operations, Chevron shall install domes on one or more of the following tanks to reduce VOC emissions as necessary to reduce ROG emissions below the BAAQMD significance threshold, and to ensure no net increase in Project ROG emissions above Baseline ROG emissions: Tanks 1491, 3213, 3134, 1688, 1514, 3133, 3071, 992, 3197, 1687, 990, 991, 3073, 1296, 3191, 1287, 3220, 3127, 1488, 1459, 3180, 3074, 3076, 3193, 3128, 3201, and 3075. If, following Project approval, Chevron identifies feasible ROG reduction measures other than tank domes that result in quantified emissions reductions as verified by BAAQMD, City shall consider implementation of such alternative reduction measures in lieu of, or in combination with, the reduction measures required by this Mitigation Measure 4.3-5f(iii), provided that such measures have completed all required CEQA review and permitting processes prior to implementation (it is noted, however, that no such measures are currently identified, planned or approved for implementation.)

(iv) If, after implementing Mitigation Measure 4.3-5f(i) through 4.3-5(iii), above, ROG emissions have not been reduced below the BAAQMD significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project ROG emissions to Baseline levels on a net basis.

(v) If, after implementing Mitigation Measure 4.3-5(f)(ii), above, Project ROG emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project ROG emissions are reduced to Baseline levels on a net basis.

5g: Supplemental Mitigation for all CAPs. In any year that Chevron exceeds Baseline emissions for any CAP, Chevron shall contribute funding for, and participate in, a Clean Air Improvement Fund, which funding shall be in addition to, and payment thereof shall in no way relieve Chevron or the Project of, the requirement that the Project achieve no net increase in CAP emissions, as follows:

- Funding shall be in an amount determined based on a benchmark price to be agreed to by the City, BAAQMD and Chevron, as thereafter annually adjusted by the Consumer Price Index value for the San Francisco Bay Area.
- Funding shall be paid annually within 60 days following approval by BAAQMD of the Emission Inventory for the prior calendar year.
- All payments into the Clean Air Improvement Fund shall be spent on emission reduction measures for criteria pollutant(s) that increased above Baseline in the following order: (1) reductions from Facility emissions, (2) reductions within the City, and (3) reductions from the North Richmond area closest to the Facility.
- Funding and implementation decisions shall be made in a public process by a stakeholder group consisting of representatives from the City, the community, and Chevron.
- A brief report shall be prepared for each major emission reduction measure implemented using such funds, and be made available to help inspire similar emission reduction opportunities.

5h: Chevron shall secure a permit amendment from BAAQMD reducing the annual throughput limit of the Solvent Deasphalting unit to 50,000 barrels per day. This must be completed prior to commencing operation of the new hydrogen plant.

5i: Chevron shall secure a permit amendment from BAAQMD reducing the hydrogen production limit of each train of the new hydrogen plant from 140 mmscf/day to 122 mmscf/day. This must be completed prior to commencing operation of the new hydrogen plant.

Implementation of Mitigation Measures 4.3-5 above would reduce and offset the Project's operational CAP emissions to a less than significant level and achieve the "no net increase" Project objective through a combination of emission control measures and the permanent retirement of emission reduction credits.

### **Potential Significant Effect**

As described in *Impact 4.3-6*, without mitigation, Project operations would not result in TAC emissions that would exceed BAAQMD significance thresholds for cancer risks, chronic health hazard index (HI), and acute HI. However, under the Project scenario that assumes 100% utilization, maximum shipping, and the lightest crude blend, emissions from increased shipping would exceed the BAAQMD significance threshold for cancer risks.

### **Summary of Specific Impact**

As described in *Impact 4.3-1* and the EIR, *Volume 3, Chapter 3, Master Response 4*, the EIR used a Heath Risk Assessment (HRA) to model TAC impacts on sensitive populations proximate to the Facility and concluded, using the appropriately conservative assumptions. The HRA

showed that the Project would result in less-than-significant impacts from TACs (see EIR, *Volume 1, Section 4.3.6.2.5*).

Specifically, as described in detail in EIR, *Volume 1, Appendix 4.3-HRA*, an air dispersion model was developed to understand the manner in which TACs would be dispersed in the air – from TAC sources – and to the sensitive receptors proximate to the Facility. The model took factors such as wind pattern, climate, and topography into account when evaluating stationary source of TACs (e.g., the replacement hydrogen plant, operational consequences of increasing refinery utilization) and mobile sources (e.g., ships, trucks) that also emit TACs. Project Design Features, including new and upgraded SuezMax ships, were taken into account and emissions reductions were incorporated into the HRA.

Land uses that are particularly sensitive to TAC-related impacts were also mapped to ensure a sufficient level of detailed analysis was included in the HRA for sensitive receptors such as residences, schools, parks, convalescent homes, and hospitals. As described in EIR, *Volume 1, Appendix 4.3-HRA, Section 1.2*, the TAC impacts for approximately 8,000 locations in the neighborhoods nearest the Facility were separately calculated, and resulting figures show the relative impact levels for all of the neighborhoods nearest the Facility. Separate figures were then prepared to depict cancer risk, and non-cancer chronic HI, acute HI, and PM<sub>2.5</sub> concentrations for the scenarios.

The results from the HRA are depicted in Figures 4.3-10 through 4.3-19 of the EIR, *Volume 1, Chapter 4, Section 4.3*, and were then compared to applicable BAAQMD significance thresholds for cancer risk and non-cancer chronic HI and acute HI.

The HRA demonstrates that the Project, in its unmitigated condition, operating under the highly conservative 100% utilization rate, would result in less-than-significant impacts. Specifically, the Maximum Exposed Individual (MEI) for health impacts is less than the BAAQMD CEQA significance threshold, as shown below:

- Cancer risk is 8.8 in a million, less than the CEQA significance threshold of 10 in a million risk established by BAAQMD. The MEI would reside in Point Richmond.
- Inhalation chronic HI is 0.02, less than the CEQA significance threshold of 1 established by the BAAQMD. The multi-pathway chronic HI for workers is 0.1 and for residents is 0.003.
- Acute HI is 0.51, less than the CEQA significance threshold of 1 established by the BAAQMD. Note that the acute HI for residents and workers is the same.
- Exposure to an incremental increase in PM<sub>2.5</sub> is 0.16 µg/m<sup>3</sup>, less than the CEQA significance threshold of 0.30 µg/m<sup>3</sup>.

Only under the 100% Utilization, Maximum Shipping, Lightest Crude Blend Scenario would TACs exceed the BAAQMD TAC cancer risk threshold. No other health impact threshold would be exceeded under this scenario.

The effects and exposure levels to the maximum exposed individual sensitive receptor (MEISR) from the Project operating at the conservative, but reasonably foreseeable 93% of capacity with the replacement hydrogen plant operating at 100%, are shown to be further below the significance threshold. The cancer risk for the MEISR with the Project at operating at 93% of capacity would be 4.0 in 1 million. Moreover, because the Project includes the retrofitting of new SuezMax ships, which deliver feedstocks to the Facility, certain neighborhoods would result in net TAC-risk reductions, even without Project mitigation. The chronic HI is approximately zero (0.02) for the recreational MEI. The acute HI is approximately 0.5 at a non-residential location.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level and achieve the "no net increase" Project objective.

**Mitigation Measure 4.3-6:** Chevron shall implement the following measures:

6a1: Prior to operation of the Project, Chevron shall implement the following measures to reduce Diesel Particulate Matter (DPM), inclusive of PM<sub>2.5</sub>, to reduce health risk from all Project TAC emissions to below BAAQMD significance criteria (for the 93% Project Shipping Scenario) and to ensure no net increase of health risks from Project TAC emissions over Baseline levels:

(i) Chevron shall fund and require installation of cleaner main and auxiliary engines on one boat serving the Long Wharf as well as non-Chevron facilities. Prior to operation of the Project, Chevron shall fund the installation of new, cleaner Tier 4 main engines and Tier 3 auxiliary engines for one of the six tugboats.

(ii) Chevron shall fund and cause to have implemented the project design feature described in the EIR as removal of three ocean-going vessels (called "SuezMax" because they can go through the existing Suez canal, and have cargo capacity of between 120,000 to 200,000 tons) from West Coast service, and replacement of these vessels with two new Chevron SuezMax ships. The main ship engines of each replacement ship shall meet a Tier 3 standard instead of the required Tier 2 standard, and the auxiliary engines shall be upgraded with turbochargers that are cleaner than Tier 3 standards.

6a2: Prior to operating the Project in excess of 93% Project utilization, Chevron shall implement a combination of the following measures to reduce DPM, inclusive of PM<sub>2.5</sub>, to reduce health risk all Project TAC emissions to below the BAAQMD significance criteria and to ensure no net increase of health risks from Project TAC emissions over

Baseline levels, with all emission reduction amounts from such measures requiring validation by the BAAQMD:

(i) Chevron shall increase the average parcel size—the average ship cargo volume that is delivered or picked up from the Long Wharf—to reduce the number of ship calls, and thereby reduce DPM emissions from shipping. There would be no adverse secondary impacts associated with reducing the number of ship calls at the Long Wharf, nor would this mitigation measure authorize any ship to increase the volume of material shipped via the Long Wharf.

(ii) Chevron shall fund and require installation of cleaner main and auxiliary engines on up to five non-retrofitted tug boat serving the Long Wharf as well as non-Chevron facilities. The Long Wharf is primarily served by six tugs, one of which will have been retrofitted as described in Mitigation Measure 4.3-6a1(i) prior to Project operation. Under applicable CARB rules, four of these tugboats are required to be retrofitted with cleaner engines meeting designated Tier 2 emission standards, over a phase-in period ending as late as 2022. The remaining two tugboats are required to be retrofitted with cleaner engines meeting designated Tier 3 emission standards in 2017. Chevron shall fund the installation of new, cleaner Tier 4 main engines and Tier 3 auxiliary engines on the number of tugs required—to reduce DPM, and achieve the No Net Increase Project Objective.

(iii) If, after implementing Mitigation Measures 4.3-6(a)(2)(i) and 4.3-6a(2)(ii), above, health risk from Project TAC emissions remains above Baseline levels on a net basis, as determined by the health risk assessment required by Mitigation Measure 4.3-6b, below, Chevron shall install electric shore power, and require one or more of the ships using the Long Wharf to use such shore power in lieu of continuing to burn diesel fuel while berthed. Before implementing this mitigation measure, Chevron shall apply to the City and other responsible agencies for necessary permits, and shall complete the environmental process required under CEQA. Implementation of this measure is not required to achieve the performance standard included in this Mitigation Measure 4.3-6.

(iv) If, after implementing Mitigation Measures 4.3-6(a)(2)(i) through 4.3-6a(2)(iii), above, health risk from Project TAC emissions remains above Baseline levels on a net basis, as determined by the health risk assessment required by Mitigation Measure 4.3-6b, below, then Chevron shall curtail Facility operations as necessary to ensure that such health risk is reduced to Baseline levels on a net basis.

6b: Chevron shall fund and participate in a Clean Air Improvement Fund for any net increase in health risks from TACs not avoided or mitigated as required in this EIR.

(i) In any year for which the BAAQMD-approved emissions inventory, combined with annual emission estimates from shipping, results in an increase over Baseline levels identified in Table 4.3-24 of the three primary risk drivers (DPM, benzene, and naphthalene), even if such emissions are adequately mitigated as CAP emissions through implementation of Mitigation Measure 4.3-5 such that there is no net increase of such CAP emissions over Baseline levels, then Chevron shall, within 60 days, fund the cost of

the City's preparation of a new health risk assessment to identify whether these TAC emissions resulted in an increase in risk over Baseline.

(ii) If the new risk assessment required by Mitigation Measure 4.3-6(b)(i), above, identifies an increase in risk over Baseline risks, then Chevron shall contribute an additional \$100,000 in further funding for the Clean Air Improvement Fund identified in this Mitigation Measure 4.3-6b.

6c: Chevron shall monitor designated metals in Facility feedstock and refinery fuel gas (RFG) and report annually on the correlation, if any, between total annual designated metal emissions (as calculated from RFG samples) and average annual concentrations of such metals in feedstocks. The annual report shall address the following metals of concern: nickel, vanadium, selenium, cadmium, and mercury. Metals are TACs, and contribute to health risks, and any net increase in metal emissions would also trigger the mitigation measure compliance requirements in Mitigation Measures 4.3-6a and 4.3-6b, above.

6d: Chevron shall monitor average annual sulfur and nitrogen concentrations in Facility feedstocks, and nitrogen-related refinery fuel gas air emissions, and report annually on the correlation, if any, between total annual nitrogen-related CAP and TAC emissions (as reported in the BAAQMD annual Emissions Inventory) and average annual concentrations of sulfur and nitrogen in feedstocks. Any such increase over Baseline would require compliance with mitigation measures specified above to ensure no net increase in CAPs or risks from TACs over Baseline levels.

Implementation of Mitigation Measures 4.3-6a through 4.3-6d above would reduce the impact to a less-than-significant level and achieve the "no net increase" Project objective through a combination of emission control measures and the permanent retirement of emission reduction credits.

### **Potential Significant Effect**

As discussed in *Impact 4.3-7*, without mitigation, the Project would allow the Facility to process crude and gas oils containing higher concentrations of sulfur, which would result in increased emissions of sulfur-related compounds and TACs.

### **Summary of Specific Impact**

Gaining the flexibility to process higher sulfur crude and gas oils is an inherent part of the Modernization Project. However, increased emissions of sulfur-related compounds such as SO<sub>x</sub> are not anticipated as part of this Project, nor is there any risk from a sulfur-related TAC. Any such increase over Baseline would require mitigation to achieve the "no net increase" Project objective.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level and achieve the "no net increase" Project objective.

**Mitigation Measure 4.3-7:** Chevron shall implement Mitigation Measures 4.3-6a through 4.3-6d.

Implementation of Mitigation Measures 4.3-6a through 4.3-6d, as required by Mitigation Measure 4.3-7, would reduce the impact to a less-than-significant level and achieve the "no net increase" Project objective through a combination of emission control measures and the permanent retirement of emission reduction credits.

### **Potential Significant Effect**

As discussed in *Impact 4.3-8*, without mitigation, the Project could result in increased odors from sulfur-related compounds.

### **Summary of Specific Impact**

Some substances present in products and byproducts of the refining process and in minerals used at the Facility are known to cause odors. There are two odorous compounds of concern based on existing and reasonably foreseeable Refinery Operations: hydrogen sulfide and ammonia. Additionally, increased Facility utilization would increase use of storage tanks and associated piping, and increases in emissions associated with the filling and emptying of tanks. This increased activity may lead to periodic increases in hydrocarbon odors.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.3-8:** Chevron shall implement the following measures:

(a) Chevron shall report annually to the City in writing on the number of odor complaints confirmed by the BAAQMD, and shall specify in such report, where available, whether each complaint relates to hydrogen sulfide, NH<sub>3</sub>, or an unspecified compound or source.

(b) If, in any year following commencement of Project operations, there is an increase in odor complaints confirmed by the BAAQMD relative to the number of odor complaints that occurred during the Baseline period, and such increase is due to H<sub>2</sub>S or NH<sub>3</sub> odors, Chevron shall prepare, and submit to the City and BAAQMD for approval, an Odor Management Plan. At minimum, the Odor Management Plan shall:

- Establish protocols for monitoring odors at or from the Facility on an ongoing basis;
- Provide for the establishment of a regular odor patrol to monitor odors at or from the Facility and to investigate, and take corrective actions with respect to, odor complaints on an ongoing basis;
- Establish protocols for the prompt recordation and annual reporting to City of odor complaints confirmed by BAAQMD;
- Establish community outreach protocols describing procedures for informing the public about how and where to submit odor complaints;
- Describe measures to be implemented as necessary to reduce BAAQMD-confirmed odor complaints below the BAAQMD threshold of significance, which measures shall include, but not be limited to, the following odor mitigation strategies recommended for refineries in the BAAQMD CEQA Guidelines (collectively, the "Odor Reduction Measures"):
  - (i) implementation of water injections into the hydrocracking process;
  - (ii) installation of vapor recovery systems;
  - (iii) injection of masking odorants into refinery process streams;
  - (iv) installation of flare meters and controls;
  - (v) implementation of wastewater circulation technology for aerated ponds;
  - (vi) implementation of thermal oxidizers;
  - (vii) implementation of carbon absorption mechanisms;
  - (viii) implementation of biofiltration and/or bio-trickling filters.

- Establish protocols for (1) the annual review and reporting on the effectiveness of any Odor Reduction Measures implemented pursuant to this Mitigation Measure 4.3-8 and (2) adaptively managing the implementation of Odor Reduction Measures as necessary to maintain complaints below the BAAQMD threshold of significance on an ongoing basis.

(c) If, in any year following commencement of Project operations, there is an increase in odor complaints confirmed by the BAAQMD relative to the number of odor complaints that occurred during the Baseline period, and such increase is due to H<sub>2</sub>S or NH<sub>3</sub> odors, Chevron shall implement the odor patrol provided for under the Odor Management Plan and cause it to immediately commence monitoring odors at or from Facility on an ongoing basis, to investigate any odor complaint, to ensure that appropriate action is taken to reduce odors from the affected source, and to document the implementation and effectiveness of the corrective action.

(d) If odor complaints above Baseline levels persist for more than 2 consecutive years following commencement of Project operations, Chevron shall fund a qualified third-party engineering firm to assume responsibility for:

- Immediately investigating odor complaints confirmed by the BAAQMD in accordance with Odor Management Plan protocols;
- Implementing and adaptively managing, at Chevron's sole expense and in consultation with the City and the BAAQMD, one or more of the Odor Reduction Measures described in the approved Odor Management Plan, to reduce or maintain BAAQMD-confirmed odor complaints below the BAAQMD threshold of significance;
- Monitoring and documenting the implementation and effectiveness of such Odor Reduction Measures and the adaptive management thereof in accordance with Odor Management Plan protocols; and
- Annually reporting in writing to the City and the BAAQMD on the implementation and effectiveness of such Odor Reduction Measures and the adaptive management thereof in accordance with Odor Management Plan protocols.

(e) Chevron shall cause the Project to comply with the City's odor standards and with BAAQMD Regulation 7-303, which limits the concentration of NH<sub>3</sub> from stacks to 5,000 ppm. The Facility heaters shall comply with the BAAQMD Permit Condition 24136, Item #16 limit of 10 ppm NH<sub>3</sub> at 3% oxygen in the stack, which is less than 5,000 ppm. Chevron shall further cause the Replacement Hydrogen Plant to comply with BAAQMD Regulations 7-303 for NH<sub>3</sub> at the other sulfur recovery units. Chevron shall confirm concentration of NH<sub>3</sub> in the stacks of both source categories after construction.

Implementation of Mitigation Measure 4.3-8 would reduce this impact to a less than significant level through regulatory compliance, odor monitoring and odor control mechanisms.

**C. *Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

**D. *Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The Modernization Project would not cause any significant cumulative CAP- and TAC-related impacts. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project does not exceed the identified significance thresholds, its emissions would not be cumulatively considerable, resulting in less-than-significant air quality impacts on the region's existing air quality conditions. Because the Project would not result in any significance adverse impact in short-term construction impacts, or any increase in CAPs or health risks from TACs above Baseline levels, it would not contribute to any potential cumulative air quality impact.

**E. *Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

**F. *Cumulative Effects Of The Proposed Project That That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Biological Resources**

**A. *Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in EIR, *Volume 1, Section 4.4.4*, most of the Modernization Project components are proposed to be located within the Refinery Process and Tank Farm areas, which do not provide potential regulated riparian habitat, nor do they include sensitive plant communities. The Project components are separated from San Pablo Bay and salt marsh features by the Refinery Process Area and from San Francisco Bay by Interstate 580 (I-580). Therefore, neither the placement nor the construction of Project components would result in a significant impact to riparian habitat or other sensitive natural communities and no mitigation is necessary.

The construction and operation of the Modernization Project also would not result in a significant adverse impact on federally protected wetlands, San Francisco Bay, or San Pablo Bay, due to the lack of potentially jurisdictional wetlands or other waters within the Project areas, the physical separation between the Project areas and the nearest water features, the lack of significant changes to pollutant load in wastewater, and the fact that the Project would not result in a net increase in the quantity of wastewater discharged to the Bay under any Project utilization scenario.

The Modernization Project area consists primarily of developed areas, and is not located in a major wildlife movement corridor or habitat linkage. Further, due to the disturbed, limited, and fragmented condition of habitats on site, which would preclude most species from using the site for breeding/nesting, the Project site also does not appear to function as a wildlife nursery site. Therefore, the construction and operation of the Modernization Project would result in a less-than-significant impact to the movement of any native resident, migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or to the use of a native wildlife nursery site, and no mitigation is necessary.

The Modernization Project would not conflict with any local policies or ordinances protecting biological resources. The Modernization Project location is not subject to, and the Project would not itself conflict with, the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Project would not result in a significant adverse impact here and no mitigation is necessary.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

**Potential Significant Effect**

As discussed in *Impact 4.4-1*, without appropriate mitigation, the Modernization Project's construction activities could potentially result in indirect and direct significant adverse impacts to special-status wildlife species, but would not significantly impact any candidate, sensitive, or special-status plants.

**Summary of Specific Impact**

The Modernization Project will not significantly impact special-status plants because the Refinery Process and Tank Farm areas do not support any special-status plant species.

The Tank Farm Area contains degraded scrub, coast live oak-California bay woodland, revegetated areas and non-native tree groves along the periphery. These vegetation types have the potential to provide suitable nesting habitat for white-tailed kite, a California Department of Fish and Wildlife (CDFW) Fully Protected species, in addition to other raptors and songbirds protected under the state Fish and Game Code and/or the federal Migratory Bird Treaty Act (MBTA). Construction activities associated with the replacement of the storage tank dome Project Design Features, including vegetation removal, grubbing, noise, and vibration, have the potential to result in direct and indirect adverse impacts to these species.

Additionally, the Tank Farm Area contains non-native eucalyptus and Monterey pine trees that may potentially serve as roost habitat for several special-status bat species and as winter roost habitat for the monarch butterfly. Construction activities, such as the removal of these trees, have the potential to cause inadvertent impacts to these species.

However, implementation of Mitigation Measure 4.4-1a through 4.4-1c would reduce the potential for inadvertent impacts to these species to a less-than-significant level.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.4-1a:** To avoid construction-related direct impacts (nest removal) or indirect impacts (increased noise levels) on nesting birds (including CDFW Fully Protected Species and Species of Special Concern), one of the following measures shall be implemented:

- Conduct vegetation clearing and grubbing activities from September 1 through January 1, when birds (including raptors) are not likely to be nesting on the site;

OR

- Conduct pre-construction surveys for nesting birds if construction is to take place during the nesting season (January 1 through August 31). A qualified wildlife biologist shall conduct a pre-construction nest survey no more than 5 days prior to initiation of construction activities (including vegetation clearing and grubbing) conducted within 300 feet of any vegetated area to provide confirmation of the presence or absence of active nests on or immediately adjacent to the storage tank dome Project Design Feature within the Tank Farm Area. If active nests are encountered, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A minimum exclusion buffer of 50 feet (300 feet or more for raptors) shall be maintained during construction, depending on the species and location. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel and activities would be restricted in the area. A survey report by a qualified biologist verifying that (1) no active nests are present, or (2) the young have fledged, shall be submitted to the City and CDFW prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts to these nests occur.

Implementation of either of the mitigations listed above would reduce the Modernization Project's potential impact to nesting birds to a less-than-significant level by avoiding construction during sensitive periods when the birds (and raptors) are likely nesting or otherwise avoiding inadvertent impacts to any existing nests.

**Mitigation Measure 4.4-1b:** One of the following mitigation measures shall be implemented to lessen potential impacts on potential roost habitat and bat species:

- Construction activities near bat roost habitat or removal of potential bat roost habitat shall commence between September and October in order to avoid both the bat maternity period and the bat hibernation period;

OR

- If this is not feasible, pre-construction bat roost surveys shall be conducted prior to removal of potential roost habitat. Pre-construction surveys for potential bat roost habitat shall be performed in all trees and buildings subject to removal or demolition for evidence of bat use (guano accumulation, acoustic or visual detections). If evidence is found, then acoustic surveys shall be conducted to determine whether a site is occupied. A minimum of three acoustic surveys shall be conducted in areas containing evidence of bat use between April and November under appropriate conditions using an acoustic detector (WBWG, 2002). If necessary, and with approval from CDFW, exclusion of bats from occupied roosts shall be performed in the fall prior to construction. A qualified wildlife biologist shall be present during exclusion.

Implementation of either of the mitigations listed above would reduce the Modernization Project's potential impact on special-status bats to a less-than-significant level by avoiding construction during sensitive periods when the bats utilize the roost habitat or otherwise avoiding inadvertent impacts to any existing roosts.

**Mitigation Measure 4.4-1c:** One of the following mitigation measures shall be implemented to lessen potential impacts on potential winter roost habitat for Monarch butterfly:

- Conduct tree removal when Monarch butterflies are not present (typically between March 31 and August 31);

OR

- If conducting tree removal between March 31 and August 31 is not feasible, pre-construction Monarch butterfly roost surveys shall be conducted by a City-approved biologist within 100 feet of the storage tank dome Project Design Feature prior to initiation of any tree removal activities. If any winter roosts are encountered during the survey, construction shall be postponed until the roosting activity has ended. A follow-up survey shall be conducted by an approved biologist prior to construction in order to verify that the roosts have been vacated.

Implementation of either of the mitigations listed above would reduce the impact to a less-than-significant level by avoiding construction during sensitive periods when the butterflies are present or otherwise avoiding inadvertent impacts when butterflies are present.

**C. *Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The Modernization Project in conjunction with related projects would not result in a regional loss of undeveloped land and associated biological resources, as the Modernization Project and the majority of related projects would occur in already-industrialized and urbanized areas, or are “infill” projects. For these types of projects, the amount and quality of the biological resources at or near the sites are low and significant cumulative impacts to biological resources are not expected to occur. Further, the biological habitats associated with the Modernization Project area are too small, fragmented, and/or isolated by surrounding Refinery Operations, the I-580 corridor, and other commercial and/or industrial development to support substantial and viable sensitive biological resources. Therefore, provided the mitigation measures listed above are implemented, the proposed Modernization Project’s contribution to significant cumulative biological resources impacts would be less than significant.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Cultural Resources**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in EIR, *Volume 1, Section 4.5.3.3*, there are no historical resources, as defined in Section 15064.5, located within the Refinery Process and Tank Farm areas or the construction staging areas of the Project site. The Standard Oil Administration Building is a historical resource as defined in Section 15064.5, but is situated outside the Refinery Process and Tank Farm area as well as the construction staging area. Therefore, the Modernization Project will not cause a substantial adverse change to any historical resources as defined in Section 15064.5.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

### **Potential Significant Effect**

As discussed in *Impact 4.5-1*, without appropriate mitigation, the Modernization Project has the remote potential to cause a substantial adverse impact to previously unknown archaeological resources.

### **Summary of Specific Impact**

Two prehistoric archaeological sites are within the Project site and in proximity to areas that would be subject to Project-related ground disturbance. One site, CA-CCo-277 is described as sparse and "insignificant" in historical documentation and is outside the active construction proposed zone. The second site, CA-CCo-276, has been heavily impacted by historical development and intact deposits associated with this resources are unlikely to exist. Excavation in the vicinity of CA-CCo-276 is anticipated to be minor and consist of work in previously disturbed areas.

The Project site is largely modified and disturbed and the vast majority of Modernization Project-related excavation and subsurface work has already been completed. However, the general vicinity of the Modernization Project site has a considerable level of previously identified prehistoric sites (e.g. shell midden soils, lithic artifacts, historic trash scatters), especially along the margins of San Pablo Bay. Previously unknown archaeological sites may occur deeply buried within the Project site. Damage to significant archaeological deposits would be a significant environmental impact.

Potential impacts would be mitigated, however, through the implementation of appropriate preservation measures including training of construction workers, on-site monitoring during ground-disturbing construction, and immediate halt of all work within 50 feet of any discovery of subsurface prehistoric or historic cultural resources in order to assess the significance of the find, per CEQA Guidelines section 15064.5 and, in the event that the discovery were determined to be significant, consultation with a qualified archaeologist in order to determine the appropriate mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.5-1:** In the event that any prehistoric or historic subsurface cultural resources, such as structural features or unusual amounts of bone or shell, artifacts, human remains, architectural remains (such as bricks or other foundation elements), or historic archaeological artifacts (such as antique glass bottles, ceramics, horseshoes, etc.), are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and Chevron and/or the lead agency shall consult with a qualified archaeologist to assess the significance of the find per CEQA Guidelines Section 15064.5. If any find is determined to be significant, representatives of Chevron and/or the lead agency and the

qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation, with the ultimate determination to be made by the lead agency. All significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documented according to current professional standards.

As part of the Mitigation Monitoring and Reporting Program for the EIR, Chevron shall have environmental monitors on-site during Modernization Project actions that involve ground-disturbing construction. The construction workers shall be trained by the monitors on environmental sensitivity and the identification of prehistoric or historic subsurface cultural resources.

In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the lead agency shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project site while mitigation for historical resources or unique archaeological resources is carried out.

Implementation of Mitigation Measure 4.5-1 would ensure that any significant archeological discoveries uncovered by ground disturbing activities would be appropriately protected. Thus, the potential adverse impact described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As discussed in *Impact 4.5-2*, without appropriate mitigation, the Modernization Project has the remote potential to cause a substantial adverse impact to a previously unknown unique paleontological resource or site or unique geological feature.

### **Summary of Specific Impact**

As discussed above, the Project site is largely modified and disturbed and the vast majority of Modernization Project-related excavation and subsurface work has already been completed. While there are no known unique paleontological or geologic features in the Project site, there is a remote potential that remaining Modernization Project subsurface excavation activities may result in the discovery of, and potential impacts to, a previously-unknown paleontological resource. Damage to unique paleontological or geologic deposits would be a significant environmental impact. This impact would be reduced to a less-than-significant level after mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.5-2:** In the event of unanticipated paleontological discoveries, such as large deposits of fossil remains, Chevron shall notify a qualified paleontologist who shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. In the event of an unanticipated discovery of a brea (a seep of natural petroleum that trapped extinct animals and which preserved and fossilized their remains), true, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist per Society of Vertebrate Paleontology standards (SVP, 1995). The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the lead agency determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the impact of the Modernization Project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the lead agency for review and approval.

As part of the Mitigation Monitoring and Reporting Program for the EIR, Chevron shall have environmental monitors on-site during Modernization Project actions that involve ground-disturbing construction. The construction workers shall be trained by the monitors on environmental sensitivity and the identification of prehistoric or historic subsurface cultural resources.

Implementation of Mitigation Measure 4.5-2 would ensure that any significant paleontological discoveries uncovered by ground disturbing activities would be appropriately protected. Thus, the potential adverse impact described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As discussed in *Impact 4.5-3*, without appropriate mitigation, the Modernization Project has the remote potential to cause a substantial adverse impact to previously unknown human remains. This impact would be reduced to a less-than-significant level after mitigation.

### **Summary of Specific Impact**

As discussed above, the Project site is largely modified and disturbed and the vast majority of Modernization Project-related excavation and subsurface work has already been completed. While there is no evidence that the Project site has been used for burial purposes in the recent or distant past, and while no human remains were discovered during pre-writ Modernization Project excavation activity, there is a remote potential that subsurface excavation activities may result in the discovery of, and potential impacts to, previously unknown human remains.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.5-3:** In the event that human skeletal remains are uncovered during construction activities for the Modernization Project, Chevron shall immediately halt work, contact the Contra Costa County Coroner to evaluate the remains, and follow the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County coroner determines that the remains are Native American, Chevron shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (Public Resources Code 5097.98), with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Implementation of Mitigation Measure 4.5-3 would ensure that any human skeletal remains uncovered by ground disturbing activities would be appropriately protected. Thus, the potential adverse impact will be mitigated to a less-than-significant level.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

Consistent with the Richmond General Plan 2030 EIR, the cumulative analysis for impact on cultural and paleontological resources considers the broad regional system of which the resources are a part, i.e. the San Francisco Bay Area. The Richmond General Plan 2030 EIR acknowledges that the Richmond General Plan 2030, together with cumulative development, has the potential to adversely affect significant historical, archeological, and paleontological resources. The Modernization Project's incremental contribution to these cumulative impacts would be potentially cumulatively considerable and thus potentially significant. However, cumulative impacts on cultural and paleontological resources will be reduced to a less-than-significant level with the incorporation of the proposed mitigation measures. Given the low likelihood of encountering the resources discussed in this finding, the Modernization Project's

contribution to cumulative impacts would be less than significant after the implementation of the Project mitigation measures. No mitigation is required beyond implementation of the Project mitigation measures.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Energy**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in *Impact 4.6-1*, construction of the Modernization Project would temporarily use readily available renewable and non-renewable sources in the form of fuels for vehicles and equipment as well as electrical energy for tools and lighting. Since the increased demand would not result in a substantial use of regional energy sources, nor require new energy infrastructure to be constructed, the impact of energy expenditures for construction to of the Modernization project will be less-than-significant and requires no mitigation.

As discussed in *Impact 4.6-2*, operation of the Project would increase long-term consumption of natural gas and an increase production of electricity and hydrogen at the Facility. However, the increased consumption of natural gas is within the demonstrated capability of the utility to supply to the Facility and would not result in substantial use of regional energy resources. Nor would the increased production of electricity and hydrogen require construction of facilities not already included in the Project, therefore the impact will be less-than-significant and requires no mitigation.

Similarly, operation of the Project would increase long-term generation and consumption of electrical energy at the Facility, as discussed in *Impact 4.6-3*. However, the increased demand would be satisfied by the additional generation capacity from components of the Project and would not result in substantial use of regional energy resources, nor would the increased consumption and generation require construction of facilities not already included in the Modernization Project. Since the Modernization Project would not change the net electricity imported from the utility, the impact will be less-than-significant and requires no mitigation.

As discussed in *Impact 4.6-4*, operation of the Project would require additional energy for transportation of employees, raw materials, and product. However the change in energy use for transportation is insubstantial compared to the existing Facility consumption and will be less-than-significant and requires no mitigation.

As discussed in *Impact 4.6-5*, operation of the Modernization Project would result in increased overall energy efficiency. This impact will be less-than-significant and requires no mitigation.

Finally, as discussed in EIR, *Volume 1, Section 4.6.3.3*, there are no aspects of the Modernization Project that would result in, or have the potential to cause, a reduction or interruption of existing electrical or natural gas service.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The energy consumption for construction of the project requires short-term use of some existing energy resources over a period of approximately 24 months. As discussed above, the energy consumed would not represent a significant impact nor would it represent a cumulatively considerable contribution resulting in long-term depletion of nonrenewable energy resources or a permanent increase in reliance on nonrenewable resources. The incremental impact of energy resources for construction activities will not therefore be cumulatively considerable

The increased use of electricity due to operation of the Project would be met by new electricity generation capacity and would not result in substantial use of regional energy resources nor require the construction of facilities not already included in the project. Therefore there will be no significant cumulative adverse energy impacts for the operation of the Project. Similarly, natural gas demand from the Modernization Project, in conjunction with reasonably foreseeable projects and regional growth, would not require construction of new facilities or infrastructure and will therefore have no significant cumulative adverse impacts.

Within the cumulative context of overall global consumption of natural gas and transportation fuels (i.e., gasoline and diesel), the Modernization Project would not change overall global consumption which responds to market demand. Market demand for transportation fuels is not expected to decrease and, if the Modernization Project were not to occur, the processing of higher sulfur crude blends would remain with other or potentially new refineries. Hence, there will be no cumulative increase in consumption of transportation fuels energy from the approval of the Modernization Project.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Geology, Soils, Seismicity, And Mineral Resources**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in *Impact 4.7-1*, in the event of a major earthquake in the region, seismic ground shaking could potentially injure persons at the Project site due to structural damage of Facility structures. Ground shaking, additionally, could potentially expose persons and property to seismic-related hazards, such as localized liquefaction and seismically induced settlement. In accordance with the California Building Code, every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the impacts of earthquake motions in accordance with its standards. Therefore, impacts associate with ground shaking would be less than significant due to compliance with applicable codes and regulations and no mitigation is necessary.

Additionally, proposed construction could experience damage from expansive soils and natural and/or differential settlement or be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, as discussed in *Impact 4.7-2*. This impact would be less than significant due to compliance with applicable codes and regulations, such as site-specific geotechnical investigation for each Project element associated with construction, which utilizing standard current engineering practices would evaluate each site for potential expansive and unstable soils. The final geotechnical report for each site would include recommendations to mitigate any potential hazards associated with expansive and/or unstable soils, if any. Therefore, no mitigation is necessary.

As explained in EIR, *Volume 1, Section 4.7.3.3*, the Project is not anticipated to result in substantial soil erosion or the loss of topsoil because most of the Project construction, including most soil disturbance activity, is complete. Also, because the facility is served by its own wastewater system that does not include septic tanks, there is no potential for the Project to have soils incapable of supporting septic tanks or alternative wastewater disposal systems. Since the existing Facility processing units and operations preclude access to potential mineral resources, there is no potential for the Project to result in the availability of a known mineral resource or result in the loss of a locally important mineral resource recovery site.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

- C. ***Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

- D. ***Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

Impacts related to geology, soils, and seismicity tend to be localized and generally could not result in regionally cumulative impacts. Further, implementation of the provisions of the City of Richmond's Building Code, the National Pollutant Discharge Elimination System permit requirements, and the General Plan 2030 Safety Policies would ensure that potential site-specific geotechnical conditions and soil conditions would be addressed fully in the design of future development and that potential impacts would be maintained at less-than-significant levels. For these same reasons, the Modernization Project together with past, present, existing, pending, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts related to geology, soils, and seismicity and no mitigation is necessary. Finally, given that the Modernization Project would have no adverse impacts related to mineral resources, it would have no cumulatively considerable impact on such resources.

- E. ***Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

- F. ***Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Greenhouse Gases**

- A. ***Environmental Effects Of The Project Found To Have No Impact on the Environment, or Have a Less Than Significant Impact On The Environment.***

As discussed in EIR, *Volume 1, Section 4.8.4.2 (Impact 4.8-3)*, implementation of the Project would not conflict with applicable greenhouse gas plans policies, including AB 32 - the California Global Warming Solutions Act of 2006 (including its Scoping Plan and regulations adopted pursuant to AB 32), the BAAQMD greenhouse gas reduction target, Plan Bay Area, the Richmond General Plan 2030, and Executive Order S-3-05. This potential impact would be less than significant and no mitigation is required.

- B. ***Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

### **Potential Significant Effect**

As discussed in *Impact 4.8-1*, without appropriate mitigation, construction of the Modernization Project could result in emissions greenhouse gases exceeding 10,000 metric tons carbon dioxide equivalent per year (MT CO<sub>2</sub>e/yr) threshold of significance.

### **Summary of Specific Impact**

Construction-related greenhouse gas emissions are one-time emissions in that they occur during a discrete period and are not expected to occur repeatedly year-after-year, unlike operational emissions. The Project's construction-related greenhouse gas emissions were calculated based on the type and quantity of construction activities per construction phase, including construction vehicle and equipment operations, construction worker vehicular trips, soil movement activities, and demolition and debris removal activities. To varying degrees, these construction phases would generate greenhouse gas emissions from two main sources types: (i) off-road construction equipment; and (ii) off-road mobile sources such as vendor trucks, material hauling trucks, working commuting vehicles, and worker transport vehicles.

As shown in EIR, *Volume 2, Appendix 4.2-CST, Table A4.3-CST-12*, the Project's construction-related greenhouse gas emissions in 2014 are 15,644 MT CO<sub>2</sub>e and exceed the 10,000 MT CO<sub>2</sub>e/year threshold of significance. Construction greenhouse gas emissions in 2015 and 2016 are less than the 10,000 MT CO<sub>2</sub>e/year threshold (4,301 MT CO<sub>2</sub>e and 1,884 MT CO<sub>2</sub>e, respectively). The higher construction emissions estimated for 2014 is consistent with the higher construction activity in the first year of construction, which includes the hydrogen plant tie-in, hydrogen plant replacement, sulfur removal improvements, existing storage tank domed roof installation, and water reuse project. In 2015, construction activity is limited to the hydrogen plant replacement and sulfur removal improvements. In 2016, the only construction activity occurring is for the demolition of the existing hydrogen plant.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.8-1:** Consistent with air quality mitigation measures for construction activities, Chevron would be required to implement the following mitigation measures to reduce its Project construction emissions. Implementation of the mitigation measures would result in further reductions in greenhouse gas emissions.

1a: All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

1b: Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measure (Title 13 of California Code of Regulations [CCR], Section 2485). Clear signage shall be provided for construction workers at all access points.

1c: All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.

1d: The idling time of diesel-powered construction equipment shall be limited to 2 minutes.

1e: The Project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in construction (i.e., owned, leased, and subcontractor vehicles) would achieve a Project-wide fleet-average 20% nitrogen oxide reduction and 45% particulate matter reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. (Several of these measures would also reduce greenhouse gas emissions.)

1f: All contractors shall be required to use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

1g: Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).

1h: Enforce and follow limits on idling time for commercial vehicles, including delivery and construction vehicles.

1i: Using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment on at least 15% of the fleet.

1j: Using local building materials of at least 10%.

1k: Recycling or reusing at least 50% of construction waste or demolition materials. As described above, BAAQMD does not provide a quantitative significance threshold for greenhouse gas emissions from construction

If after quantification of greenhouse gas reduction measures for 2014, construction emissions are shown not to be below 10,000 MT CO<sub>2</sub>e per year, then Chevron must implement the following additional measures:

1l: For each year of Project construction, Chevron shall hire, at commercially reasonable rates and at Chevron's expense, a qualified third-party entity reasonably acceptable to the

City to quantify and verify in writing whether the reductions achieved from the above described construction greenhouse gas mitigation measures for that year of Project construction adequately mitigated this potentially significant impact, which report shall be subject to City's reasonable approval. For any year of construction for which construction-related diesel emissions are not reduced to or below the 10,000-MT CO<sub>2</sub>e per year significance threshold, Chevron shall implement one or more of the following measures in an amount sufficient to reduce construction period greenhouse gas emissions to less than significant levels:

- (i) Reduce diesel emissions from other equipment at the Facility, such as a diesel-powered generator, in an amount equal to the construction-related greenhouse gas emissions in excess of 10,000 MT CO<sub>2</sub>e per year for any calendar year of Project construction, which reduced emission level Chevron shall maintain for the following 2 years.
- (ii) Permanently retire, or retrofit from diesel to electric power, one or more Facility sources that emit more than 300 MT CO<sub>2</sub>e per year.

Implementation of Mitigation Measure 4.8-1 would reduce Project's annual construction-related greenhouse gas emissions below the 10,000 MT CO<sub>2</sub>e/yr, thus reducing this impact to a less-than-significant level.

### **Potential Significant Effect**

As discussed in *Impact 4.8-2*, without appropriate mitigation, operation of the Project would result in aggregate greenhouse gas emissions exceeding the BAAQMD CEQA significance threshold of 10,000 MT CO<sub>2</sub>e/yr, and would exceed Baseline greenhouse gas emissions.

### **Summary of Specific Impact**

The Project's unmitigated operational greenhouse gas emissions are estimated to exceed Baseline levels at levels ranging from 71,233 to 904,413 MT CO<sub>2</sub>e/year, depending on the Project scenario under review. Thus, under all Project scenarios, unmitigated operational greenhouse gas emissions will exceed the 10,000 MT CO<sub>2</sub>e/year BAAQMD threshold. Operational emissions would be closer to 725,579 CO<sub>2</sub>e/year, assuming the Facility operates under conditions approximating the "Project Crude Blend, Max Hydrogen Production, 93% Utilization Scenario" described in EIR, *Volume 1, Appendix 4.3-URM*, which is the Project scenario that Chevron believes represents reasonably foreseeable future operational conditions. Nevertheless, for all Project scenarios, this is a significant impact warranting mitigation to reduce this impact below BAAQMD significance thresholds and achieve the "no net increase" Project objective.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

## **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level and achieve the "no net increase" Project objective.

**Mitigation Measure 4.8-2:** Chevron shall implement all greenhouse gas Project Design Features described above, including those measures described in subsections 2a through 2f below. If implementation of subsections 2a through 2f, below, does not reduce Facility greenhouse gas emissions to Baseline levels on an annual net basis, then Chevron shall implement subsection 2g, below. If implementation of subsections 2a through 2g, below, does not reduce Facility greenhouse gas emissions to Baseline levels on an annual net basis, then Chevron shall implement subsection 2h, below:

2a: Implement water conservation measures during Modernization Project construction;

2b: Install LED Lighting at the Facility during Modernization Project construction;

2c: Implement fluid catalytic cracker cooling water tower motor upgrades during Modernization Project construction;

2d: Participate, for Chevron Commercial Facilities (and industrial accounts, if practicable), in the Marin Clean Energy Program prior to commencement of construction;

2e: Provide \$30M over ten years in funding for implementation of the Community Greenhouse Gas Reduction Measures, which measures shall be selected by the City through a public process with input from stakeholders from the City, North Richmond, and Chevron, as described above;

2f: Acquire and timely surrender to CARB Cap-and-Trade Emission Allowances in quantities sufficient to reduce Facility greenhouse gas emissions to or below Baseline levels on a net basis (rounded up to the nearest metric ton), after taking into account reductions achieved by Mitigation Measures 2a-2e above;

2g: Acquire greenhouse gas reduction credits through the California Air Pollution Control Officers Association's (CAPCOA) Greenhouse Gas Reduction Exchange (GHG Rx), or through a similar exchange certified by the BAAQMD or CARB, in quantities sufficient to reduce Facility greenhouse gas emissions to or below Baseline levels on a net basis (rounded up to the nearest metric ton), after taking into account reductions achieved by Mitigation Measures 2a-2e above, and after taking into account net reductions achieved by Mitigation Measure 2f above;

2h: Curtail facility operations such that Facility greenhouse gas emissions are reduced to or below Baseline levels on a net basis (rounded up to the nearest metric ton), after taking into account reductions achieved by Mitigation Measures 2a-2e above, and after taking into account net reductions achieved by Mitigation Measures 2f-2g above.

**Mitigation Measure 4.8-2bB: Clean Air Improvement Fund.** Chevron shall fund and participate in a Clean Air Improvement Fund for any Facility greenhouse gas emissions over Baseline. Chevron is required to comply with applicable pollution control laws which are anticipated to result in further decreases in Facility emissions, as described in *Section 4.53, Air Quality*. If the Modernization Project is approved, operational greenhouse gas emissions as mitigated and through Project Design Features would be lower than otherwise required by Assembly Bill (AB) 32 and other air quality laws, regulations and permit programs, due to the broader scope of the CEQA and the NNI Project objective.

- Funding shall be in an amount equivalent to the difference between Project and Baseline greenhouse gas emissions (in MT CO<sub>2</sub>e) multiplied by the settlement price of greenhouse gas emission allowances determined at the 1<sup>st</sup> quarter 2014 California Air Resources Board (CARB) auction, annually adjusted by the Consumer Price Index value for the San Francisco Bay Area. The difference between Project and Baseline greenhouse gas emissions shall be determined in accordance with the procedures for determining the Remaining Offset described above in *Section 4.8.4.1.2.3.3.2*.
- Funding shall be paid annually and in accordance with the procedures described above in *Section 4.8.4.1.2.3.3.2*.
- Funding shall be spent on greenhouse gas emission reduction measures in the following priority order: (1) reductions from Facility emissions; (2) reductions within the City; and (3) reductions from the North Richmond area closest to the Facility.
- Funding and implementation decisions shall be made by the City, as part of a public process, with input from stakeholders including representatives from the City, North Richmond, and Chevron.
- A brief report shall be prepared for each major emission reduction measure implemented using such funds, and be made available to help inspire other emission reduction opportunities.

Mitigation Measure 4.8-2 first requires the Project to implement a number of on-site emission-reduction measures, such as lighting retrofits and water recycling programs. It then requires payment of \$30 million over 10 years to fund a number of Community Greenhouse Gas Reduction Programs within the City. Remaining impacts will be mitigated through compliance with the cap-and-trade regulations. If the Project cannot acquire and surrender allowances in numbers sufficient to achieve the mandatory no net increase performance standard, Mitigation Measure 4.8-2 requires the Project to turn to carbon offsets to close the net emissions gap. If that proves inadequate, then the Facility must curtail operations to offset remaining Net Increased Emissions. Together, these measures will reduce the Project's operational greenhouse gas impacts to a less than significant level and achieve the Project's "no net increase" objective.

As noted, Mitigation Measure 4.8-2e requires Chevron to fund community-based greenhouse gas reduction programs (CGRPs) to be selected and administered by the City of Richmond, with input from community stakeholders in the City and North Richmond, and Chevron. The City finds that, because the selection of the CGRPs will be made by the City in future, following a public process that considers community input, the precise CGRPs to be funded by Mitigation Measure 4.8-2e cannot be identified at this time. However, the EIR analyzes fourteen potential CGRPs that could be implemented with the funding required by Mitigation Measure 4.8-2e.

CEQA requires that the potentially significant adverse environmental impacts of Project Design Features, as well as mitigation measures, also be considered and mitigated to the extent feasible. For purposes of evaluating the environmental impacts of each potential CGRP identified in the EIR, the EIR (*Volume 1, Section 4.8.4.1.2.3.2.1*) grouped such potential CGRP into two categories: (1) measures with no significant adverse impacts requiring further mitigation; and (2) measures resulting in potentially significant adverse impacts requiring mitigation. The City finds that, were they to be implemented, the following potential CGRPs identified in the EIR would have no significant adverse impacts requiring mitigation (as explained in EIR, *Volume 1, Section 4.8.4.1.2.3.2.1.1 I*): Pedestrian Plan and Bicycle Master Plan Implementation; Rebates for Electric Vehicle and Electric Charging Station; Ride Share Program Subsidies; Bicycle Program; Transit Service Subsidies; Energy Efficiency Rebate Measures; Zero Waste Program; Urban Forestry.

As explained in EIR, Volume 1, Section 4.8.4.1.2.3.2.1.2 II, two categories of potential CGRPs - wetlands creation and construction of a 2 MW solar PV project on the Chevron property - involve more extensive physical construction activities over larger areas, and would require mitigation to reduce potential significant adverse impacts to less-than-significant levels. Generally, these categories of CGRP measures would require further site-specific review, and processing under CEQA, once they have been selected City and their location and scope has been ascertained. However, the potential environmental effects of one of these potential CGRPs - the 2MW solar facility to be constructed within the Chevron Facility - is considered in sufficient detail in the EIR (*Volume 1, Section 4.8.4.1.2.3.2.1.2 II*) to be implemented without additional CEQA review, were it selected by the City.

The City finds that, if the City were to select and implement the 2 MW solar facility identified as a potential CGRP in the EIR, such facility would cause less than significant adverse environmental impacts with respect to the following impact categories, as explained in EIR, *Volume 1, Section 4.8.4.1.2.3.2.1.2 II*: Aesthetics, Visual Quality, Light and Glare; Agricultural Resources; Air Quality; Cultural Resources; Energy; Geology, Soils, Seismicity, and Mineral Resources; Greenhouse Gases; Hydrology and Water Quality; Land Use, Plans and Policies; Noise; Employment, Population, and Housing; Public Services; Parks and Recreation; Transportation and Traffic; Utilities and Service Systems. The City further finds that, if the City were to select and implement the 2 MW solar facility identified as a potential CGRP in the EIR, such facility would have potential significant adverse environmental impacts with respect to public safety and biological resources, but that such impacts would be mitigated to a less than significant level through implementation of mitigation measures Haz-1, Haz-2, Bio-1, and Bio-2, as explained and described in EIR, *Volume 1, Section 4.8.4.1.2.3.2.1.2 II*, which mitigation measures are included in the Project's Mitigation Monitoring and Reporting Program.

**C. *Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

**D. *Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

Unlike many impacts, such as noise or traffic, the adverse consequences of greenhouse gas emissions depend on the cumulative impacts of every project in the state, nation, and, to a large extent, the world. Because global climate change is by nature a cumulative impact, so long as levels of greenhouse gas emissions in the atmosphere generally are at levels that create adverse impacts, the emissions of a particular project, even if not significant on an individual basis, may nonetheless contribute to an adverse, unavoidable cumulative impact because other projects do not meet such standards. At one extreme is the so-called "one-molecule" theory, whereby any contribution to an already adverse impact could be considered cumulatively significant, a CEQA standard that has been rejected by the California Natural Resources Agency, as explained in EIR, *Volume 1, Section 4.8.5.1*. At the other extreme is the conclusion that the greenhouse gas impact of any one project is insubstantial when measured against the many million metric tons of global greenhouse gas emissions. As explained above, however, the Project's greenhouse gas emissions would be mitigated to achieve "no net increase" over Baseline levels and, therefore, the Project's cumulative impacts are less than significant.

**E. *Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

**F. *Cumulative Effects Of The Proposed Project That That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Hydrology and Water Quality**

**A. *Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in *Impact 4.9-3*, no use of groundwater resources is proposed for the Modernization Project. As a result the Project would not substantially deplete groundwater supplies or interfere with groundwater recharge. Therefore, the Project would not result in a significant adverse impact to groundwater resources and no mitigation is necessary.

The Modernization Project would not substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion, siltation or flooding on- or off-site. Therefore, the Project would not result in a significant adverse impact here and no mitigation is necessary, as discussed in *Impact 4.9-4*.

As discussed in *Impact 4.9-5*, the Modernization Project would not create or contribute to runoff water that would exceed the capacity of existing or planned stormwater drainage systems. While some of the Modernization Project components would include new impervious surfaces, the existing surface soils are highly compacted and frequently underlain by shallow bedrock, limiting infiltration rates. Therefore, the Project would not result in a significant adverse impact here and no mitigation is necessary.

As discussed in *Impact 4.9-6*, the Modernization Project would not place structures within the 100-year flood hazard area that would adversely impede or redirect flood flows toward some other vulnerable area and any new development within the 100-year flood hazard area would be done in accordance with the Richmond Municipal Code. Therefore, the Project would not result in a significant adverse impact here and no mitigation is necessary.

As discussed in *Impact 4.9-8*, the Modernization Project would include increased shipping activities related to transportation of crude and gas oils. An increase in shipping activity could incrementally increase potential impacts related to accidental spills and routine discharges from vessels and potentially affect water quality in the Bay. These potential impacts were already addressed in the Chevron Long Wharf EIR. Since the analysis and CEQA review included in the Long Wharf EIR, including mitigation measures addressing shipping-related risks, remain applicable to the Facility, no new impacts above and beyond those that were presented in the Long Wharf EIR would occur based on Modernization Project implementation. Therefore, the potential impacts to Bay water quality related to the Modernization Project are less than significant and no mitigation is necessary.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

**Potential Significant Effect**

As discussed in *Impact 4.9-1*, without appropriate mitigation, the Modernization Project has potential to affect the quality and/or quantity of water entering the Facility's wastewater treatment plant, which could in turn affect the quality of receiving waters (the San Pablo and San Francisco Bay).

**Summary of Specific Impact**

*Construction-Related Impacts to Water Quality*

The Modernization Project would include excavation and grading for footings and foundations of new processing units that would potentially expose soils to erosion. Some of these soils may contain residual levels of contamination related to historic on-site chemical releases and spills. However, all proposed excavation related to the Modernization Project would be conducted entirely within the Refinery Process Area of the Facility (see Figure 3-2 in *Section 3 of Volume 1* of the EIR) from which stormwater runoff from is collected in the stormwater conveyance system and treated by the on-site wastewater treatment system. Any sediment and/or residual contaminants in the runoff then would be treated prior to discharge under the Facility's 2011 NPDES permit. As required by Mitigation Measure 4.9-1a, described below, stormwater runoff would also be treated during the construction period (and water quality objectives achieved)

through implementation of best management practices documented in a Storm Water Pollution Prevention Plan (SWPPP).

#### *Operation-Related Impacts to Water Quality*

The Modernization Project includes the replacement of the hydrogen plant with a newer, more efficient plant and an increase in the capacity of the sulfur recovery units and gas oil hydrotreater (fluid catalytic cracker feed hydrotreater [FCC FHT]). There is potential for this operational change to affect the quality of treated wastewater effluent that is discharged to the San Pablo Bay and San Francisco Bay and stormwater runoff.

Effluent water quality could be affected by the Modernization Project if: (1) the Project would cause a substantial change in the constituent load (the type and/or concentration of constituents) in the process water to be treated such that the plant could not effectively remove these constituents to the effluent limitations specified in the Facility's 2011 NPDES permit; and/or (2) the Project would cause more wastewater to be generated than under current conditions, which could deliver a greater pollutant load over time or more wastewater than the treatment plant could effectively treat (i.e., overwhelmed the capacity of the plant) resulting in discharges that did not receive full treatment.

##### *(1) Change in Constituent Load*

Since the Modernization Project would include processing of crude oil and gas oils that may have a slightly higher concentration of sulfides and some metals, it is possible that a slight increase in the pollutant load (i.e., concentrations of pollutants in wastewater) entering the wastewater treatment plant could occur. However, the Facility's existing wastewater treatment systems are operating well within permit limits overall, confirming the operational effectiveness of wastewater treatment methods for removing sulfides and metals. Facility wastewater discharges would also continue to be limited to those allowed under the existing 2011 NPDES permit, and this permit also requires regular monitoring of effluent and corrective action if wastewater quality limits are exceeded. Continued compliance with the 2011 NPDES would ensure that the Project would have a less-than-significant impact on receiving waters (i.e., the Bay) related to pollutant loads from sulfides, metals and other constituents, and no increase in these wastewater discharges is anticipated to occur as a result of Modernization Project implementation.

##### *(2) Wastewater Quantity*

As detailed on Table 4.9-3 of *Section 4.9 of Volume 1* of the EIR, the overall Modernization Project would not result in an increase in annual wastewater generation and would include two water reuse Project Design Features that would ensure no net increase in volume of industrial wastewater discharge, both implemented in Mitigation Measure 4.9-1b described below. At 93% Facility utilization, the Hydrogen Plant Replacement and Sulfur Removal Improvements components of the Modernization Project would result in a net increase of wastewater generation of approximately 82 million gallons per year (MGY). The 100% Utilization Scenario would increase wastewater generation by approximately 118 MGY (Table 4.9-3 of *Section 4.9 of Volume 1* of the EIR).

However, the Project includes implementation of two Project Design Features, required by Mitigation Measure 4.9-1b, that will offset increased wastewater generation under the 93% Utilization Scenario: (i) stripped sour water reuse in the distillation and reforming area, displacing the current use of boiler feed water in the distillation and reforming wash water system (Stripped Sour Water Reuse/Distillation and Reforming Area); and (ii) stripped sour water reuse in the South Isomax Area, displacing the use of cold pump condensate in the South Isomax process water system (Stripped Sour Water Reuse in South Isomax Area). Similarly, implementation of two additional stripped sour water reuse measures as identified in Mitigation Measure 4.9-1c would reduce wastewater generation by approximately 39 MGY, which would more than offset the wastewater generation increase under the 100% Utilization Scenario. As mitigated, the Modernization Project would cause no net increase in wastewater flows and thus this impact is reduced to a less-than-significant level.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.9-1a:** Chevron shall prepare and submit a SWPPP to the RWQCB that includes best management practices to treat stormwater runoff during the construction period (and achieve water quality objectives) at least 10 days prior to commencement of construction activities. The BMPs included in the SWPPP shall be implemented during construction.

**Mitigation Measure 4.9-1b:** Chevron shall implement two Project Design Features (Stripped Sour Water Reuse/Distillation and Reforming Area and Stripped Sour Water Reuse in South Isomax Area) to offset average annual process wastewater flows under the 93% Utilization Scenario.

**Mitigation Measure 4.9.1c:** If the Modernization Project increases wastewater generation above the 93% Utilization Scenario, any increases in wastewater generation shall be offset by implementation of addition water reuse projects, which may include (1) reuse of stripped sour water from 8 and 18 plants to supply wash water for the FCC FHT and hydrocracker located in the North Isomax area; and (2) reuse stripped sour water from 8 and 18 plants to supply wash water for lube crackers in the Richmond lube oil plant area. Additional or alternative stripped sour water reuse measures could also be implemented to assure no net increase in wastewater generation with City approval.

Implementation of the two Project Design Features required in Mitigation Measure 4.9-1b will offset increased wastewater generation under the 93% Utilization Scenario. Implementation of two additional stripped sour water reuse measures as identified in Mitigation Measure 4.9-1c

would reduce wastewater generation by approximately 39 MGY (Chevron Data Transmittal #70, 2014), which would more than offset the wastewater generation increase under the 100% Utilization Scenario. As mitigated, the Modernization Project would cause no net increase in wastewater flows and thus this impact is reduced to a less-than-significant level.

### **Potential Significant Effect**

As discussed in Impact 4.9-2, without appropriate mitigation, the Modernization Project could disturb, expose, or otherwise alter the present state of the existing soil contamination, leading to significant adverse changes in wastewater effluent quality.

### **Summary of Specific Impact**

Approximately 500 tons of contaminated soils would be excavated in the vicinity of the pipe racks under the Modernization Project (no other contaminated soils would be disturbed. If not properly managed, contaminants may come into contact with rainfall and runoff. These contaminants could be entrained in runoff and/or infiltrate into the subsurface. This is a significant adverse impact that would be less than significant with implementation of the mitigation measure described below.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.9-2:** Any stockpiles of soils containing contaminants generated under the Modernization Project shall be covered with plastic sheeting to ensure that sediments and pollutants are not entrained in runoff or infiltrated into the subsurface during rainfall events. Reuse or disposal of contaminated soils shall be completed in accordance with applicable laws and regulations. If the soil is a hazardous waste, it shall be disposed of offsite at a licensed facility within 90 days of generation.

Implementation of Mitigation Measure 4.9-2 above would reduce the impact to a less-than-significant level by preventing entrainment and infiltration of sediments and pollutants into the subsurface and by properly disposing contaminated soils.

### **Potential Significant Effect**

As discussed in *Impact 4.9-7*, the Project would place structures in areas subject to storm-related flooding and, without appropriate mitigation, future flood risks will likely increase with predicted sea level rise, exacerbating coastal flooding problems.

## **Summary of Specific Impact**

The Modernization Project includes ongoing use of Facility equipment in areas subject to coastal flooding, including tsunami wave run-up and sea level rise. Due to the orientation of the Richmond Peninsula, only the southwest side would be in the direct path of a tsunami wave entering the Bay. This southwest side is characterized by relatively steep uplands, and the wave would likely not advance very far inland (as shown on Figure 4.9-2 of the Draft EIR). The northeast side of the peninsula, where there are more low-lying areas, would experience a reduced wave impact but is still susceptible to inundation. Chevron has developed emergency response plans for the Facility that include notification, evacuation, shutdown, and monitoring actions that would be implemented by Facility staff if a tsunami were to occur.

A tsunami in San Francisco Bay is a low probability event, and Chevron has an emergency response plan in place for addressing a tsunami event, and therefore near-term impacts related to a tsunami are less than significant. However, current flooding inundation scenarios do not address future conditions and sea level rise. As sea level rises (1 meter of sea level rise is estimated by 2100), the base water level in the Bay from which coastal flooding and inundation occurs is raised, exacerbating future flooding problems. This future flooding condition would be particularly relevant to the low-lying area along the northeast portion of the project site. The potential for injuries and property damage related to more frequent and severe future flooding conditions is a significant impact that that would be less than significant with implementation of the mitigation measure discussed below.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

## **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.9-7:** Within five years, Chevron shall retain qualified professionals to develop a Facility flood contingency plan that addresses all types of coastal flooding (i.e., storm-related flooding, extreme high tides, and tsunamis) and how these coastal flooding hazards will increase over time due to sea level rise. The contingency plan shall be submitted to the City of Richmond for review and approval.

The contingency plan shall define the level of protection based on best available estimates for sea level rise from the State of California or the Bay Conservation and Development Commission and may use a phased approach to providing protection of susceptible facilities (i.e., increase the level of protection as the hazard increases). Potential flood protection methods in the plan may include 1) raising susceptible structures above the future flood inundation levels; 2) raising berms and levees to provide the needed protection; or 3) other equivalent options. The flood protection methods defined in the contingency plan shall be implemented within five years

of plan completion. The contingency plan shall be updated every five years and these updates submitted to the City of Richmond for review and approval. In this way, implementation of Mitigation Measure 4.9-7 above would reduce the impact to a less-than-significant level.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The cumulative wastewater flows from the Modernization Project process units and stormwater flows from point and non-point sources within the vicinity of the Project could potentially increase the mass load of pollutant discharges to the Bay. However, considering the negligible incremental contribution from the Modernization Project, together with continued compliance with the discharge requirements of the Facility's NPDES permit, this impact would be less than significant.

Additionally, the waste streams at the Facility are treated by the wastewater treatment plant prior to discharge, and the effluent discharges into the San Pablo Bay resulting from the Modernization Project in combination with other projects at the Facility, such as the East Bay Municipal Utility District's Richmond Advanced Recycled Expansion water project (described in *Section 4.17, Utilities and Service Systems*), also would be regulated by Chevron's NPDES permit.

Because the Bay Area refineries' total discharges are judged to have "no demonstrable water quality effect" and the Modernization Project would not increase total wastewater discharge and would not be expected to result in significant changes to the pollutant load entering the wastewater treatment plant, the Project would not make a cumulatively considerable contribution to the cumulative impact on water quality.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Land Use, Plans, And Policies**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

Since the Modernization Project would not physically alter any land uses outside of the perimeter of the Facility, and since the land uses adjacent to the Project site are industrial and recreational, the Project would not physically divide an established community and no significant adverse impact would occur, as discussed in *Impact 4.10-1*. Therefore, the Project would not result in a significant adverse impact here and no mitigation is necessary.

As discussed in *Impact 4.10-2*, the Modernization Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental impact and result in a physical change in the environment. Therefore, the Project would not result in a significant adverse impact here and no mitigation is necessary.

As explained in EIR, *Section 4.10.3.3*, the Modernization Project would have no impact on habitat conservation plans or natural community conservation plans because there are no adopted habitat or natural community conservation plans applicable to the Project site.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The Richmond General Plan 2030 EIR did not identify any cumulative land use or planning policy impacts, and the Modernization Project would be consistent with the General Plan 2030. Additionally, as stated above, the Modernization Project would not physically divide an established community and would not conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project. Accordingly, the Modernization Project, together with past, present, existing, pending and reasonably foreseeable future projects, would not result in significant cumulative adverse impacts to land use and no mitigation is necessary.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## Noise

### *A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.*

As discussed in EIR, *Volume 1, Section 4.11.3.1*, construction and operation of the Modernization project would be 5,000 feet or farther from the nearest sensitive receivers. Groundborne vibration and related groundborne noise dissipate rapidly over distance and would be minimal to non-existent at that distance. Therefore, the Project will not expose persons to or generate excessive vibration or groundborne noise levels, and there will be no impact in relation to this criterion. In addition, there are no public use airports or private airstrips located within a 20-mile radius of the Project site, nor is the Project site located within an airport land use plan. Therefore the Modernization Project will not expose people to excessive noise levels associated with aircraft operations and there will be no impact in relation to this criterion.

As discussed in *Impact 4.11-3*, increased vehicle traffic to and from the Facility during the construction period of the Modernization Project would increase ambient noise level at receptors along the travel route. However, at the 11 intersections in the area studied for existing conditions and for conditions during the peak construction period, the majority are along I-580 at interchanges far from residences or other sensitive receivers. Additional traffic on these roads will not result in significant adverse noise impacts. The primary time of interest for the remaining areas, along Richmond Parkway north of West Gertrude Avenue where there are numerous residences, is during the AM peak hour when there could be up to an additional eleven heavy trucks and 102 passenger cars traveling to the refinery site during a single peak hour (no heavy trucks are expected to access the site during the PM peak hour). Due to the logarithmic nature of sound, a doubling of traffic volume (100%) results in an increase of 3dBA, which would be just perceptible. The additional traffic predicted would represent an overall increase of approximately 4% above existing traffic conditions or a traffic noise level increase well below 1 dBA. Therefore the impact of increased traffic noise as a result of construction will be less-than-significant and requires no mitigation.

Long term noise impacts from the creation of approximately 29 new permanent jobs would add only a few additional employee trips to the Facility. Increased daily Facility truck trips would result in a less than 1 dBA increase in average daily truck noise, and rail deliveries, at the largest estimated increase rate, would result in a less than 1 dBA increase in annualized average rail noise. Shipping volumes would increase under the Modernization Project; however the Chevron Long Wharf EIR determined that 900 or fewer vessel calls would not result in significant noise impact. The overall number of vessel calls at the Long Wharf with the Modernization Project would be less than 900. Therefore, long term increases in transportation to and from the Facility as a result of the project will result in less-than-significant noise increases and requires no mitigation.

Similarly, operational noise from equipment to be installed as part of the Modernization Project could produce noise at nearby sensitive noise receptors. However, the net increase over ambient sound at those locations would be minimal (2 dBA at the nearest receptor and no net increase at all other measured receptors), and the Project related operational sound levels would comply with the Richmond noise ordinance for residential uses for both nighttime and daytime hours.

Therefore long term noise impacts as a result of operational noise from the Project will be less-than-significant and requires no mitigation.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

**Potential Significant Effect**

As discussed in *Impact 4.11-2*, daytime construction activities associated with the Modernization Project would be required to comply with the City's noise limits applied to activities longer than 15 days and are unlikely to generate noise levels substantially above existing ambient levels in the Project vicinity. Therefore, daytime construction activities will result in less than significant noise impacts. Without mitigation, if weekend or nighttime construction were to occur, then construction noise could exceed the City's noise limits and/or substantially exceed ambient noise levels during the quietest nighttime.

**Summary of Specific Impact**

Most of the construction for the Modernization Project has already occurred, but remaining construction activities would last approximately 2 years. Construction noise levels at and near locations within the Facility would fluctuate depending on the particular type, number, and duration of use of various types of construction equipment. The impact of construction noise would depend on how much noise would be generated by construction, the distance between construction activities and the nearest noise-sensitive uses, and the existing noise levels at those uses.

Noise levels associated with construction of the major new Project components, including the Hydrogen Plant Replacement hydrogen tie-ins, sulfur removal improvements, and existing hydrogen plant dismantling would produce the most significant noise impacts. Modeling considered the potential sound conservatively; as all of the equipment associated with the construction of those components operating simultaneously, as would impact the nearest sensitive residential receivers, and attenuated only by distance, atmospheric absorption, and ground impacts (i.e. without consideration of the dampening effect of intervening structures, vegetation, or terrain).

Modeled noise levels would comply with the strictest noise standard of 60 dBA identified in the Richmond Noise Ordinance for weekday (7:00AM-7:00PM) construction activities greater than 15 days and the stricter weekend day (9:00AM-8:00PM) noise limit of 55 dBA. The modeled noise level would represent an estimated increase of only 1-2 dBA from existing ambient sound levels at the studied receiver locations. Daytime construction-noise impacts will not constitute significant a adverse noise impact and requires no mitigation.

There are no plans to work a night shift to construct the project. However, if weather or other factors compromise the construction schedule, Chevron may decide some work activities would be necessary at night. In that event, nighttime construction activities could result in increases of 2-11 dBA at the nearest sensitive receivers, above the 50 dBA limit applicable to nighttime operations. Noise from nighttime construction work would constitute a significant noise impact if unmitigated.

If nighttime construction were required, impacts would be mitigated below significance thresholds by limiting the type of construction activities to ensure that noise generation does not exceed the City's nighttime noise limit of 50 dBA. In the event that verified complaints were received by either the City or Chevron's compliance and complaint manager about noise from vehicle backup alarms, Chevron would implement feasible measures to reduce alarm noises at the facility boundary, such as ambient sensing/broadband technology instead of traditional fixed level/narrowband alarms, or the use of administrative controls such as a spotter or flagger and prohibiting foot traffic in the work area.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the Modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.11-1a:** If nighttime construction is required, no pile driving shall be allowed and the types and intensity of any construction activities shall be limited to ensure noise generation does not exceed the City's nighttime noise limit of 50 dBA or cause an increase greater than 5 dBA.

**Mitigation Measure 4.11-1b:** If nighttime construction is required and the City of Richmond or the construction compliance manager receive verified complaints due to noise from the use of backup alarms, Chevron shall implement feasible measures to reduce this noise at the Facility boundary. Measures may include the use of alarms with ambient sensing/broadband technology instead of the traditional fixed level/narrowband alarms or the use of administrative controls such as using a spotter or flagger and prohibiting all foot traffic in the work area.

Because of the conservative nature of the modeling, and considered in conjunction with the fact that nighttime construction activities would be less intensive than the daytime construction activities considered in that modeling, the construction activity limits and noise limits contained in Mitigation Measures 4.11-1a and the alternates to backup alarms contained in Mitigation Measure 4.11.1b will reduce the impact of nighttime construction noise to less-than-significant level.

### ***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

Because Project construction noise would not be readily perceptible, as described above, there is minimal potential for cumulative construction noise impacts with other construction projects. Similarly, increased traffic due to construction of the Modernization Project, all other projects, and a major facility turnaround would result in up to a 14% increase in traffic volumes during the AM peak period on area roadways near sensitive receivers, which would result in an increase of less than 1 dBA over existing traffic noise. Any significant noise impacts of nighttime construction would be reduced to less-than-significant levels by Mitigation Measures 4.11-1a and 4.11-1b. Therefore, the Modernization Project will not contribute to a cumulatively considerable construction noise impact.

Increased operational noise from cumulative development in Richmond would primarily occur from increases in motor vehicle traffic. An increase in noise levels of 3 dBA would be perceptible and potentially significant. The estimated operational increase in the number new employee automobile trips plus the number of new truck round-trips per day due to the Modernization Project would represent a 6% and 13% increase in traffic along the roadway most affected by noise from the Modernization Project (i.e. Richmond Parkway north of Gertrude Street, for the 93 and 100% Utilization Scenarios respectively). This increase in traffic would result in less than a 3 dBA increase in noise level and would not be cumulatively considerable. In addition, as described above, the Modernization Project would not result in any readily-perceptible increase in existing operational noise levels associated with Refinery Operations. Therefore there would be no cumulatively considerable noise impact due to operation of equipment. Noise impacts associated with operations of the Modernization Project will not contribute to a cumulatively considerable development noise impact.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Employment, Population, and Housing**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in EIR Volume 1, Section 4.12.3.3, the Modernization Project would be built almost entirely within the existing Project site boundaries, where no housing is located. Therefore there will be no displacement of either existing housing or people due to the project.

As discussed in Impact 4.12-1, the Modernization Project could result in direct population growth within the City of Richmond from the creation of temporary and permanent new jobs. However, Chevron currently contributes to employment training and development programs aimed at the Richmond and West County workforce, and the 2013 Modernization Project Labor Agreement specifies a commitment to hire qualified local residents. The approximate 500 workers per day average over the 2-year construction period are anticipated to be drawn primarily from the construction labor pool available in Richmond and the rest of the Bay Area. The fraction of construction workforce to be drawn from outside the Bay Area is expected to prefer rental housing and would be absorbable in the available rental market of Richmond, and Contra Costa more generally. Therefore the temporary population increase associated with the construction of the Modernization Project will be less than significant. Similarly, the Modernization Project will create 29 new permanent jobs at the Facility. Even if all of those employees move to the area or Richmond specifically, the impact on housing will be less-than-significant and requires no mitigation.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

As discussed, the Modernization Project's impacts on employment, population, and housing will be less than significant and will not displace people or housing. Because construction of the Project is expected to draw primarily on Bay Area residents, and because the addition of 29 permanent employees can be absorbed in the current housing vacancy rate in the Bar Area and Richmond specifically; when considered together with past, present existing, pending, and reasonably foreseeable future projects on the Project site and in the region of the Project site, the Modernization Project will not have a significant cumulative adverse impact on population, employment, or housing.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Public Safety**

### ***A. Environmental Effects Of The Project Found To Have No Impact on the Environment, or Have a Less Than Significant Impact On The Environment.***

As explained in EIR, Volume 1, Section 4.13.3.3, the Project would not be located within an airport land use plan or within 2 miles of a public airport or private airstrip and, therefore, the Project would not result in a safety hazard for people residing or working in the Project area.

Chevron is required to comply with applicable federal, state, and local laws and regulations regarding the transportation of hazardous materials and hazardous waste during Project construction and operational phases. As explained in *Impact 4.13-1*, given the absence of Chevron-related hazardous materials construction incidents involving construction phase activities during the 2008 Project, and since the Modernization Project's construction activities and transportation of construction wastes and hazardous materials would be conducted in accordance with applicable regulatory requirements, which are implemented to protect both on-site works and the off-site public, the impacts to the public and the environment from the transport of hazardous materials during Project construction would be less than significant.

### ***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

#### **Potential Significant Effect**

As discussed in *Impact 4.13-2*, without mitigation, the use of hazardous materials during the construction phase of the Modernization Project would result in a potentially significant adverse impact.

#### **Summary of Specific Impact**

The construction phase of the Modernization Project would include the use and on-site storage of hazardous materials, such as flammable, high-pressure gas and some solvent-based cleaning and coating activities, among others. Moreover, Project demolition activities could involve the removal and handling of asbestos-containing materials (ACMs). In addition, it is estimated that approximately 500 tons of potentially hazardous soil would be excavated prior to and during the construction of the Modernization Project. The use, handling, and removal of these hazardous materials during the construction phase of the Project would result in a potentially significant adverse impact warranting mitigation.

#### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-2a:** Store hazardous materials for Modernization Project construction activities only in the construction staging locations identified in Figure 3-1 (*Chapter 3, Project Description*) unless an alternate location within a previously developed portion of the Facility is approved as part of the building permit approval process.

**Mitigation Measure 4.13-2b:** Implement worker training and safety requirements for construction workers, including emergency response and hot work and contractor refinery instructions as more fully described in *Section 4.13.2.3* and *Appendix 4.13-DET*, and report training and implementation of safety requirements monthly to the City during construction and demolition activities. Communicate location and scope of Modernization Project-related construction activities weekly to City and Facility management to avoid any conflicts between construction and refining activities. The required implementation will include the new Leak Response Protocol developed since August 2012 (Chevron, 2012a).

Since Chevron is required to comply with applicable federal, state, and local laws regarding the use of hazardous materials during the Modernization Project construction and operational phases, and given the enhancements to the Facility's safety programs after the August 6, 2012 fire (as described in EIR, Volume 1, Section 4.13), which are geared to protect both on-site workers and the off-site public, the impacts to the public and environment from the use of hazardous materials during construction would be less than significant after the application of the mitigation measures described above.

### **Potential Significant Effect**

As discussed in *Impact 4.13-3*, without mitigation, the management and disposal of hazardous wastes, and demolition and construction wastes, generated during Project construction could result in a potentially significant adverse impact.

### **Summary of Specific Impact**

It is anticipated that the bulk of the debris and waste from the demolition of the hydrogen plant and other construction would be scrap steel and metal from piping, structural supports, vessels, and other equipment, some of which could involve ACMs or be subject to hydrocarbon contamination. However, Project construction-related hazardous waste would be predominantly contaminated soil. The management and disposal of these hazardous materials during the construction phase of the Project would result in a potentially significant adverse impact warranting mitigation.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

## **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-3a:** Demolition and other construction wastes, and hazardous wastes, must be stored only in Facility locations approved by the City.

**Mitigation Measure 4.13-3b:** Hazardous wastes must be transported off-site to an authorized disposal, treatment, or recycling facility by a transportation company with appropriate federal and state transporter licenses within 90 days after the wastes are generated.

**Mitigation Measure 4.13-3c:** Non-hazardous demolition and construction waste must be transported off-site to an authorized disposal, recycling, or reuse facility by a transportation company with required transporter licenses within 180 days after the wastes are generated.

Construction and demolition activities would be conducted under the various waste management programs and regulatory constraints to protect both on-site workers and the off-site public. Chevron's continued obligation to comply with existing regulatory requirements, the impacts to the public and the environment from the disposal of hazardous wastes and materials would be less than significant after the implementation of the above-described mitigation measures during construction and demolition activities of the Modernization Project.

## **Potential Significant Effect**

As discussed in *Impact 4.13-4*, without mitigation, the additional quantities of hazardous materials being managed and generated during Project operations could have a significant adverse impact.

## **Summary of Specific Impact**

Additional quantities of hazardous materials would be used and hazardous wastes generated during the operation of the Modernization Project relative to Baseline levels. However, no new types of hazardous materials would be introduced and no new types of hazardous waste would be generated. Nevertheless, the additional quantities of hazardous materials being managed and generated during Project operations could have a significant adverse impact warranting mitigation.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-4a:** Chevron will implement its Modernization Project Reliability Program (*Appendix 4.13-PROG*) including updating the detailed PHAs prepared for the 2008 Project for all new and modified Modernization Project components, which shall include ISSAs, damage mechanism reviews, and evaluation of the consequences thereof resulting from the Project, and LOPA, as part of these PHAs, prior to recommencement of construction of the Modernization Project, and again post-construction but before startup of Project operations for any changes that arise during construction that may affect the earlier PHAs, ISSAs, and LOPAs. Chevron will notify CCHS and the City of the availability of these PHAs, and make these PHAs available for review by CCHS and the City. The PHAs (initial and updates/revalidations), ISSAs, damage mechanisms reviews, and LOPAs shall be consistent with (proposed) amendments to the RISO. Chevron shall conduct the LOPAs and submit written LOPA reports, prepared in accordance with industry best practices (such as those issued by the Center for Chemical Process Safety) to CCHS and the City for review prior to construction (and post-construction, for those LOPAs warranting changes based on changes that arise during construction). CCHS will work with the City in implementing these and other Public Safety mitigation measures.

**Mitigation Measure 4.13-4b:** Chevron will submit to CCHS a revised RMP and Safety Plan for the modified and new equipment at the Facility, and shall cause a revised RMP and Safety Plan to be submitted by the operator of the new hydrogen plant, in accordance with the timing and other requirements established in the applicable regulations. The revised RMPs and Safety Plans shall be submitted by the earlier of: 1) prior to operations; and 2) timing requirements under applicable regulations. The revised RMPs and Safety Plans shall reflect integration of ISSA, including consideration of damage mechanisms and evaluation of the consequences thereof resulting from the changes, as well as the LOPAs, conducted as a part of PHAs (initial and PHA updates/revalidations), consistent with (proposed) amendments to the RISO. The RMPs must include all required components, including but not limited to a revised "off-site consequence" analysis of worst case and alternate scenarios (EPA, 2009), a revised accident prevention and training program, pre-startup safety reviews and prescribe training and safety requirements for contractors conducting hot work and other designated types of activities. The RMPs must cover accident risks that have been identified in the Project-related PHAs, including inherently safer systems analyses conducted as a part of Project-related PHAs and management of change procedures. Chevron will report to the City acceptance of these plans by the CCHS prior to start-up of Modernization Project operations.

**Mitigation Measure 4.13-4c:** Chevron will submit an amended hazardous materials business plan to CCHSHMP via the California Environmental Reporting System (CERS) consistent with the timing requirements of the applicable regulations. Chevron shall cause to be submitted by the operator of the hydrogen plant an amended hazardous materials business plan to CCHSHMP. The amendments will reflect the modified and new equipment at the Facility, including the hydrogen plant. Chevron will provide written confirmation to the City of CCHSHMP's acceptance of the amended plans.

**Mitigation Measure 4.13-4d:** Chevron will revise the Facility's SPCC Plans and Facility ERPs consistent with the timing requirements of the applicable regulations, and shall cause the SPCC and ERPs for the hydrogen plant to be updated as well. Plan revisions must address the modified and new equipment at the Facility including the hydrogen plant. Chevron shall make the plans available for review upon request by CCHSHMP and EPA.

**Mitigation Measure 4.13-4e:** For the additional catalyst identified in Table 4.13-4 (at hydrogen plant and FCC FHT), Chevron will either send spent catalyst for metal reclamation or dispose of the spent catalyst that cannot be reclaimed to a secure and licensed facility. Chevron will maintain records on the amount of catalyst sent for reclamation and for disposal and report to the City annually on these amounts.

**Mitigation Measure 4.13-4f:** Chevron shall ensure, through its contractual arrangements with Praxair, that Praxair will comply with all mitigation measures in this EIR as they pertain to the new hydrogen plant, and shall require Praxair to cooperate with Chevron as needed to ensure the mitigation measures with regard to the hydrogen plant are effectively implemented. Prior to construction of the new hydrogen plant, Chevron shall provide to the City and County documentation reflecting that these requirements are included in contractual agreements between Chevron and Praxair.

Chevron is required to comply with applicable federal, state, and local laws regarding safety, risk management, spill prevention, accident response, training, inspection, and notification requirements as applicable in existing regulatory programs including but not limited to CalARP, the RISO, Hazardous Materials Business Plan and inventory requirements, SPCC requirements, and Facility Response Plan requirements. Given the regulatory compliance obligations in conjunction with the plans and programs described in EIR, *Volume 1, Section 4.13*, as well as revisions to the Facility's safety programs enhanced after the August 6, 2012 fire (as described in EIR, *Volume 1, Section 4.13*), which are geared to protect both on-site workers and the public in the vicinity of the Facility, the impacts to the public from the increases in hazardous materials quantities resulting from the Modernization Project's operations would be less than significant after the implementation of the mitigation measures described above.

### **Potential Significant Effect**

As discussed in *Impact 4.13-5*, without mitigation, the transportation of additional quantities of hazardous materials during operation of the Modernization Project could result in a significant adverse impact.

## **Summary of Specific Impact**

Additional quantities of hazardous material and wastes would be transported during operation of the Project relative to Baseline. However, no new types of hazardous materials or wastes would be transported, nor is the acceptance of crude oil by rail being authorized as part of the Project. Nevertheless, the accidental release of additional quantities of hazardous material or wastes during Project operation could cause a significant adverse impact warranting mitigation.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

## **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-5a:** Chevron is required to continue to implement the following mitigations from the Long Wharf EIR (Chambers Group, Inc., 2006, 2007): OS-3b,c; OS-4; OS-6b; and OS-7a,b.

The approved Long Wharf Final EIR contained several mitigation measures to protect public safety based on the analysis described above (Chambers Group, Inc., 2006, 2007). These mitigation measures, also required by the above-described Mitigation Measure 4.13-5a, include the following, all of which remain applicable and would also be included in the Modernization Project Mitigation Monitoring and Reporting Program:

**OS-3b.** Install tension-monitoring devices at Berth 1 to monitor mooring lines and avoid excessive tension or slack conditions that could result in spills. An alarm system (visual and sound) that incorporates communication to the control-building operator shall also be a part of the system. In addition, if any vessel drifts (surge or sway) more than 7 feet from its normal manifold or loading arm position at any other terminal berth, Chevron shall install, within 6 months after the incident, tension-monitoring devices at such berth.

**OS-3c.** Install Allision Avoidance System at the terminal to prevent damage to the pier and/or vessel during docking operations. Prior to implementing this measure, Chevron shall consult with the San Francisco Bar Pilots, the U.S. Coast Guard, and the staff of the California State Lands Commission (CSLC) and provide information that would allow the CSLC to determine, on the basis of such consultations and information regarding the nature, extent and adequacy of the existing berthing system, the most appropriate application and timing of an Allision Avoidance System at the Chevron Long Wharf.

**OS 4.** Chevron shall confer with the CSLC regarding Group V oil spill response technology, including potential new response equipment and techniques that may be applicable for use at

the Long Wharf. Chevron shall work with the CSLC in applying these new technologies, as agreed upon, if recommended for this facility.

**OS-6b.** Chevron shall develop a set of procedures and conduct training and drills for dealing with tank vessel fires and explosions for tankers berthed at the Long Wharf. The procedures should include the steps to follow in the event of a tank vessel fire and describe how Chevron and the vessel will coordinate activities. The procedures shall also identify other capabilities that can be procured if necessary in the event of a major incident. The procedures shall be submitted to the U.S. Coast Guard and California State Lands Commission within 90 days of lease renewal.

**OS-7a.** Chevron shall participate in an analysis to determine the adequacy of the existing vessel traffic service in the Bay Area, if such a study is conducted by a federal, state, or local agency during the life of the lease. Agencies such as the San Francisco Bay Harbor Safety Committee often conduct studies of safety issues within the Bay Area. As vessel traffic increases in and around the Bay Area and as technology improves, it may be necessary and feasible to upgrade and expand the vessel traffic service in and around the Bay Area. Chevron shall participate in this analysis and contribute a pro-rata share toward the upgrade and expansion of the system, if required to do so by the CSLC.

**OS-7b.** Chevron shall respond to any spill from a vessel traveling to or from the wharf, moored at its wharf, related in any way to the wharf, or carrying cargo owned by Chevron, as if it were its own, without assuming liability, until such time as the vessel's response organization can take over management of the response actions in a coordinated manner.

**OS-9b.** Mitigation for pipelines includes that presented in MM GEO-8, adhering to proper engineering design, inspection, maintenance, and retrofitting.

**Mitigation Measure 4.13-5b:** Implement Mitigation Measure 4.13-4d.

**Mitigation Measure 4.13-5c:** All spills and releases of hazardous materials or hazardous waste to the environment, including those from the transportation of these materials, must be reported within 48 hours to the City, and to the other appropriate regulatory agencies in accordance with the timing and other notification and reporting requirements prescribed by the applicable laws and regulations. Prompt cleanup of all such spills is also required.

Chevron and transporters serving the Facility are required to comply with applicable federal, state, and local laws regarding transportation safety (shipping, rail, trucking, and pipeline), including but not limited to mandates regarding training, inspection, notification, spill and leak reporting, safety, risk management, spill prevention and cleanup, and accident reporting and response. The Facility has maintained a good compliance record on transportation-related safety regulations and a good safety record on transportation incidents. Chevron's continued obligation to comply with existing transportation mandates, the impacts from transportation of hazardous materials and wastes would be less than significant with the mitigation specified above. Moreover, given the assessments and conclusions of the Long Wharf EIR, the impacts from the transportation of hazardous materials via ships and barges for the Modernization Project would

be less than significant if the mitigations specified in the Long Wharf Final EIR continue to be implemented, as required by the mitigation measures described above.

### **Potential Significant Effect**

As discussed in *Impact 4.13-6*, without mitigation, the Modernization Project's physical changes could increase the risk of accidental release of acutely hazardous substances.

### **Summary of Specific Impact**

As discussed in EIR, Section 4.13, refining oil into end-products involves intense industrial processes utilizing flammable hydrocarbons and other regulated chemicals. The industrial process involved in producing fuel products also results in wear and tear on the equipment used in those processes. Many of these processes operate at high temperatures and/or pressures and involve the use or processing of hazardous substances that may cause corrosion or other damage to the equipment and associated piping. In addition, the Facility generates hazardous wastes that are subject to regulations covering the safe storage and disposal of these wastes. If not properly managed and maintained, the mechanical integrity of the process equipment can be compromised. The Modernization Project includes various changes in physical facilities, as described in EIR, *Volume 1, Chapter 3 and Section 4.13*. While the construction and maintenance of process equipment is strictly regulated under federal, state, and local regulations, without mitigation, the Project's physical changes could increase the risk of accidental release of acutely hazardous substances.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-6:** Prior to commencing construction, Chevron shall:

6a: For all Modernization Project new and modified equipment, including but not limited to the hydrogen plant, Chevron shall obtain new or amended building permits from the City's Building Department pursuant to City Building Code and CBC requirements in effect at the time the permits are issued.

6b: For all Modernization Project new and modified equipment, including but not limited to the hydrogen plant, that are subject to City of Richmond Fire Department permit requirements, Chevron shall obtain new or amended fire permits from the City of Richmond

Fire Department pursuant to City Fire Code and the CFC requirements in effect at the time the permits are issued.

Chevron is required by law to obtain building and fire construction permits for the Project, and the permits would only be issued by the City if the City determines that the Project meets code requirements in effect at the time the permits are issued. The impact from the physical changes included in the Modernization Project to public safety through increased risks of accidental releases of acutely hazardous substances would be less than significant if the above-described mitigation measures are implemented.

### **Potential Significant Effect**

As discussed in *Impact 4.13-7*, without mitigation, the Modernization Project has the potential to increase the risk of accidental releases of acutely hazardous materials due to Project-related operational changes resulting in increases in sulfur content of feedstocks, increased hydrogen purity produced at the new hydrogen plant, and increased H<sub>2</sub>S partial pressures in the hydroprocessing plant's recycle stream.

### **Summary of Specific Impact**

Refinery processing units and equipment are typically modern, and process operations are largely automated and completely enclosed. The risk of process accidents and releases of hazardous chemicals that result in exposures is generally low as a result of routine inspections and maintenance, compliance with regulatory requirements, and adherence to industry standards for design, construction, and operation. However, the Project has the potential to cause significant adverse impacts from hazardous exposures due to: (1) the inherently hazardous nature of the crude oils, gas oils, intermediate component streams (i.e., crude and gas oil fractions at different stages of processing), products and other chemicals used in the refining process; (2) potentially hazardous process conditions; and (3) degradation of process unit and equipment materials resulting from corrosion processes and other damage mechanisms associated with routine operations. This potential impact warrants mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level. Although the City accepts the Mitigation Measure 4.13-7i recommended by the EIR, below, to further ensure that potential risks from hazardous exposures are less than significant, the City has added language to such mitigation measure to impose additional Project reporting requirements and to impose additional damage mechanism review requirements under certain circumstances. The revised Mitigation

Measure 4.13-7i is set forth below and is included in the Project's Mitigation Monitoring and Reporting Program.

**Mitigation Measure 4.13-7a:** Chevron shall implement the Modernization Project Reliability Program for all units and processes affected by the Modernization Project, including written reports specified in the Modernization Project Reliability Program. An initial Reliability Program report shall be submitted to the City and County prior to Project construction.-Annual reports shall be submitted thereafter, including a report prior to commencement of Project operations. For the PHAs (initial and revalidations) specified in the Modernization Project Reliability Program, Chevron would complete the PHAs prior to commencement of Project construction, and again after construction but before startup of Project operations for any changes that may have arisen during construction that could affect the earlier PHAs. Chevron will thereafter update and revalidate PHAs in accordance with the RISO but not less than once every 5 years. As indicated in Mitigation Measure 4.13-4a, the PHAs shall include LOPAs, and written LOPA reports must be submitted to the County prior to construction for review, and Chevron shall submit a copy to the City simultaneously. To the extent that any post-construction PHA revalidations are warranted, Chevron shall submit LOPA reports for the post-construction PHA revalidations to the County for review prior to the startup of Project operations, and Chevron shall submit a copy to the City simultaneously.

**Mitigation Measure 4.13-7b:** Chevron shall complete an ISSA (as defined in the RISO), including review damage mechanisms and evaluation of their consequences, and LOPAs with written LOPA reports submitted by Chevron to the County for review, for new and modified Modernization Project components as part of the PHA revalidation process specified in the Modernization Project Reliability Program and Mitigation Measure 4.13-7a. Chevron will make the ISSA and PHAs available for review by the CCHS and the City, and will submit the LOPA reports to the County prior to construction for review.

**Mitigation Measure 4.13-7c:** Chevron will continue to review its procedures and programs for evaluating the hazards of planned changes at the Facility, and update them to incorporate damage mechanism review, including the identification of applicable damage mechanisms as well as the evaluation of the potential impacts of the damage mechanisms in light of the proposed changes, and layers of protection analysis consistent with the Reliability Program. Chevron's review and update of programs and procedures shall include, at a minimum, the Facility's management of change program/procedure and its PHA program/procedure. Chevron shall include, in its annual Modernization Project Reliability Program reports to the City, a description of the status of this documentation review and update process, as well as how the changes to these programs/procedures are being implemented at the Facility.

**Mitigation Measure 4.13-7d:** Chevron will fund the costs of qualified third-party experts to assist CCHS and the City in the review of PHAs, ISSAs, and LOPAs completed for the Modernization Project pre- and post-construction, and will cooperate in providing access to Chevron documentation and facilities, as needed, for the third-party expert, CCHS, and the City to complete these reviews. At such time as the RISO is amended, and to the extent this amendment requires Chevron to fund a new, full-time chemical process safety inspector to do inspections at the Facility, Chevron shall provide to CCHS and/or the City the level of funding required to hire a new, full-time chemical process safety inspector for the Facility,

and thereafter shall no longer be required to fund a separate third-party expert for post-construction reviews of PHAs, ISSAs, and LOPAs or other inspections.

**Mitigation Measure 4.13-7e:** Chevron shall provide funding in a reasonable amount sufficient for the City to complete an air deposition background study of air quality at up to 20 locations in Richmond. The study may be done in conjunction with local high school science departments or otherwise, and may include quarterly sampling, using surface sampling collection pads, and certified laboratory analysis of such pads at locations to be determined. Study results shall be compiled annually, and made publicly available. Chevron will fund this program for a 5-year period following commencement of Modernization Project operations. In the event of a future accidental fire or other significant accidental release of air pollutants from the Facility, Chevron shall reimburse the City for the cost of engaging a qualified consultant to perform additional air deposition sampling and analysis to evaluate the magnitude and significance of the release. The results of the post-accident deposition sampling will be publicly available.

**Mitigation Measure 4.13-7f:** Given the Modernization Project would include new equipment and operational practices at the Facility, Chevron will provide further training for and coordinate with the Richmond Fire Department prior to Modernization Project operations. Training would continue annually during Project operations.

**Mitigation Measure 4.13-7g:** Chevron shall work with the Contra Costa Sheriff's Department, the City, and other interested stakeholders, prior to the commencement of Project operations, to evaluate the existing CWS and to determine whether additional services would be beneficial, including but not limited to mechanisms for the provision of emergency messages and communications, translated into multiple different languages (considering possible integration with existing cell phone registration, email, and social media notification databases and systems), and the provision of emergency notifications to locations in the community where large numbers of people may congregate at any given time (such as shopping centers, transit centers such as Bay Area Regional Transit stations, Amtrak stations, and bus stations). Chevron shall contribute toward, and help identify additional funding for, such additional services.

**Mitigation Measure 4.13-7h:** Chevron will fund the costs of a third-party expert to assist the County and the City with the review of the Reliability Program reports and other submittals required by the Reliability Program and related mitigation measures, as needed. The third-party expert will be selected and retained by the County or the City within the County's or City's discretion. This funding obligation survives any amendment of the RISO that may require funding of an inspector for the Facility.

**Mitigation Measure 4.13-7i:** Chevron shall adhere to the total acid number (TAN) limits of 0.3 mg milligrams potassium hydroxide per gram (KOH/g) for crude, 1.5 mg KOH/g for sidecuts produced from the crude unit, and 1.0 for gas oils and blends processed through the fluid catalytic cracker, fluid catalytic cracker feed hydrotreater, hydrocracker, heavy neutral hydrocracker, and light neutral hydrocracker. If Chevron intends to process a feedstock for a short-term basis (i.e., up to 6 months) that exceeds these TAN limits, it must complete its

Management of Change (MOC) process, which shall include a corrosion review, for the proposed deviation, and shall take into account any existing damage mechanism reviews as specified in Mitigation Measure 4.13-7c that have been prepared for the identified units and piping circuits. If Chevron intends to process a feedstock for a longer-term basis (i.e., more than 6 months) that exceeds these TAN limits, it must complete its MOC process for the proposed deviation, and the MOC shall include a reliability analysis to evaluate, among other things, existing process conditions, monitoring and inspection data, expected corrosion rates, metallurgy, existing damage mechanism reviews, and monitoring and inspection frequency. The MOC evaluation, for short or longer duration TAN deviations, shall include an evaluation of the potential hazards that could result from the TAN deviation in all affected units and piping circuits, including naphthenic acid corrosion impacts. Chevron shall designate a Facility Area Business Unit Manager with final decision-making authority to approve any TAN deviation from the TAN limits. Chevron shall provide the results of any TAN deviation MOC evaluation to the City and County before processing the feedstock that deviates from the established TAN limits. Chevron shall include in its annual Reliability Program reports: (a) details regarding the results of its MOC for any TAN deviations; (b) average annual TAN for crudes and gas oils/blends processed at the Facility for each calendar year starting with 2008; and (c) for any feedstock runs with TAN levels higher than established TAN limits, include the actual TAN levels of the deviating feeds and the duration of the deviating feedstock runs.

**Mitigation Measure 4.13-7j:** Chevron shall include in its annual Reliability Program reports the annual average sulfur content of feedstocks, including separate annual averages for crude oils/blends and gas oils/blends, processed at the Facility for each year since and including 2008.

### **Potential Significant Effect**

As discussed in *Impact 4.13-8*, without mitigation, the hazard risks of accidental releases of hydrogen sulfide (H<sub>2</sub>S), flammables/hydrogen and anhydrous ammonia (NH<sub>3</sub>) from Project-related storage quantities have a potential for off-site significant adverse impacts in non-residential areas.

### **Summary of Specific Impact**

The Project would not add any new extremely hazardous substances (EHS) that are not currently present in the Facility. The Project would, however, result in an increase in the use and stored inventory of H<sub>2</sub>S, flammables/hydrogen, and anhydrous NH<sub>3</sub> (each, an EHS) due to new and modified equipment in the Project. The Project would also result in new locations storing these substances. The hazard risks of accidental releases of extremely hazardous substances (EHS) from Project-related storage quantities were evaluated in the EIR. None were found to cause an increased risk beyond the existing potential Facility impacts from currently stored acutely hazardous substances, but H<sub>2</sub>S, flammables/hydrogen and anhydrous NH<sub>3</sub> were found to have a potential for off-site impacts in non-residential areas, warranting mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-8:** Implement Mitigation Measures 4.13-4a, b, c, d, f; 4.13-5a, b, c; 4.13-6a, b; 4.13-7a, b, c, d, e, f, g, h, i, j; 4.13-11a, b, c.

### **Potential Significant Effect**

As discussed in *Impact 4.13-9*, without mitigation, the Project's accidental release of hazardous substances has the potential to trigger shelter-in-place alerts when schools are in session.

### **Summary of Specific Impact**

Per the CEQA Guidelines, Appendix G, Section VII, the Project would result in a significant adverse impact to public safety if it would emit hazardous emissions or handle acutely hazardous materials or waste within 0.25 mile of an existing or proposed school. The Project facilities would be entirely within the existing Facility and would not be within 0.25 mile of an existing or proposed school. The closest existing or proposed school is 0.32 mile from the Facility boundary. Although the CEQA threshold distance for a school relative to the Project is 0.25, given the size and scale of Facility operations, the EIR concludes that the Project would, result in increased risks to nearby schools, thus warranting mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-9a:** Chevron will coordinate with the Contra Costa County Sheriff's Department, as owner and operator of the CWS, and other stakeholders, to work with local area schools (Washington Elementary School, Lincoln Elementary School, Peres Elementary School, Verde Elementary School) to ensure that their emergency response procedures and plans are adequate to minimize the risk to students in the event of a refinery incident. This shall include, as necessary, updating plans and procedures, providing

emergency response equipment, and providing training to school staff. Chevron will coordinate with the Sheriff's Department and local area schools to ensure that the schools have operational National Oceanic and Atmospheric Administration weather radios and receive training on how to use them. Coordination will be completed prior to start of Modernization Project operations.

**Mitigation Measure 4.13-9b:** Implement Mitigation Measures 4.13-4a, b, c, d, f; 4.13-6a, b; 4.13-7a, b, c, d, e, f, g, h, i, j; 4.13-11a, b, c.

### **Potential Significant Effect**

As discussed in *Impact 4.13-10*, the Project would be located on a hazardous waste and substance site compiled pursuant to Government Code Section 65962.5 and thus, without mitigation, would result in a significant adverse impact.

### **Summary of Specific Impact**

Per the CEQA Guidelines, Appendix G, Section VII, the Project would result in a significant adverse impact if it is located on site which is included on a list of hazardous waste and substance sites compiled pursuant to Government Code Section 65962.5, and, as a result, create a significant hazard to the public or the environment. The Project would be located in part at the Facility, which is listed on the EnviroStor list of hazardous waste and substance sites compiled pursuant to Government Code Section 65962.5, as known as the "Cortese List." The Facility is listed because it has a RCRA permit for treating hazardous waste. The treatment facility, however, is located at Mill and Channel Street, which area is not part of the Project, Project Design Features, or cumulative projects. Moreover, the Project would be located within the Facility boundaries, where no public access is permitted. In addition, any construction activities within regulated areas within the Facility would be subject to RWQCB approval and oversight and any newly discovered contamination would be required to be reported to the RWQCB and subject to RWQCB requirements for the protection of human health and the environment. Nevertheless, because the Facility is listed on the Cortese List, per CEQA Guidelines, Appendix G, Section VII, the Project would cause a significant adverse impact warranting mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-10a:** If contamination is discovered during Modernization Project construction, the Facility will report the discovery to the City, the RWQCB, and any agency

required to receive such notice under applicable law, and shall promptly manage, contain, treat, transport, and/or arrange for off-site disposal of such contaminated material as required by applicable law and existing RWQCB Order. Chevron shall also train construction workers to recognize contamination, and shall use authorized remediation contactors with trained workers to characterize and manage any contaminated media discovered during Modernization Project construction.

**Mitigation Measure 4.13-10b:** If Modernization Project construction occurs in areas subject to RWQCB Order R2-2011-0036, Chevron will first receive approval of the construction activities from the RWQCB, as required under the order, and report the approval conditions to the City. Chevron will comply with applicable regulatory requirements and RWQCB approval conditions in managing the Modernization Project construction activities.

### **Potential Significant Effect**

As discussed in *Impact 4.13-11*, without mitigation, has the potential to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

### **Summary of Specific Impact**

Per the CEQA Guidelines, Appendix G, Section VII, the Project would result in a significant adverse impact if it would impair implementation of, or physically interfere with, and adopted emergency response plan or emergency evacuation plan. The Project is located within the existing Facility and is not introducing any hazardous materials not current used at the Facility and thus would not interfere with existing emergency plans for areas located outside of the Facility. The Project would need to be integrated into the Facility's emergency plan, thus warranting mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-11a:** Update the Facility's emergency plan to assure that the Modernization Project would not impair implementation of the plan, and to assure that the plan is effective. Develop Emergency Operating Procedures for new and modified Modernization Project equipment. Revisions to the plan and procedures would include clear instructions to ensure all non-essential personnel stay outside of hazardous areas during an emergency. Incorporate revisions into a revised Safety Plan submitted to CCHS for approval

and acceptance prior to commencement of Modernization Project operation, and report submission date and CCHS approval to the City.

**Mitigation Measure 4.13-11b:** Ensure Facility personnel and contractors are trained on the revised emergency procedures, including to ensure all non-essential personnel stay outside of hazardous areas during an emergency. Maintain records on initial training and annual refreshers that can be provided to the City or County upon request.

**Mitigation Measure 4.13-11c:** Chevron shall coordinate with the City, County, and other local and regional agencies, including BAAQMD and fire departments in neighboring communities, to plan and conduct periodic emergency response drills, to establish joint operations centers and joint information centers, and to establish communications networks and protocols for emergency response communications extending to these neighboring communities and agencies to further develop the infrastructure and readiness for mutual aid as between these various agencies and fire departments, in the event of emergency response incidents.

### **Potential Significant Effect**

As discussed in *Impact 4.13-12*, without mitigation, potential accidents associated with the Project could cause a fire or explosion that can result in ignition of vegetation in open space areas near the Project site thus causing a significant adverse impact.

### **Summary of Specific Impact**

Per the CEQA Guidelines, Appendix G, Section VII, the Project would result in a significant adverse impact if it would expose people or structures to a significant risk of a loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The Project is located in close proximity to areas of urbanized, non-native vegetated open space area that are susceptible to fires. Potential accidents associated with the Project could cause a fire or explosion that can result in ignition of vegetation in these areas. Smoke generated from fires in these vegetated areas could also result in health impacts to people. This is a potentially significant adverse impact that warrants mitigation.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.13-12:** Chevron will update its fire protection plan to address vegetated open space areas adjacent to process areas, and to assure that Chevron Fire Department personnel are trained and equipped to serve as first responders to a fire in these vegetated areas. The plan will be provided to and accepted by the Richmond Fire Department prior to start of Modernization Project operations. The plan must include:

12a: Fuel management, including seasonal mowing, removal of brush, trimming of trees, or other measures to reduce fuel loads during the dry season (i.e., from April 1 through November 30, unless extended by the Richmond Fire Department) in areas within 100 feet of process areas.

12b: Construction and seasonal maintenance of appropriate fire breaks (e.g., maintenance of unvegetated areas) to minimize size of fire in vegetated open space areas, provided no new vegetative clearing shall be completed until surveys have been completed for protected plants and animals, and the absence of such resources has been confirmed.

12c: Maintenance of fire roads in vegetated open space areas to provide immediate access to emergency responders, including removal of potential obstacles and brush and leveling of dirt roads on steep hillsides following the end of each rainy season (approximately April or May).

12d: Emergency response coordination, including enhanced mutual aid, protocols to assure adequate firefighter responses to vegetated open space area fires as well as Facility area.

**C. *Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

**D. *Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

None.

**E. *Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

**Potential Significant Effect**

As discussed in *Impact 4.13-13*, without mitigation, the Project, in conjunction with existing and reasonably foreseeable future activities within the Facility, and nearby industrial and transportation facilities, could lead to a cumulative increase in the risk of accidental release of acutely hazardous substances.

**Summary of Specific Impact**

The facility is located in Contra Costa County where many other hazardous materials are stored and managed. Hazardous materials can also be transported in the area near the Facility. The Project, in conjunction with existing and reasonably foreseeable future activities within the Facility, and nearby industrial and transportation facilities, could lead to a cumulative increase in the risk of accidental release of acutely hazardous substances. This risk could be potentially significant within the Facility, but is unlikely to extend to any off-site industrial or transportation operations and is thus not cumulatively considerable with respect to such off-site uses. However, additional mitigation is required to ensure that the cumulative risk of accidental release from the Project, in combination with existing Facility operations, is less than significant.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant impacts as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measures will reduce the potential impact of this significant effect to a less-than-significant level. To further ensure that the cumulative risk of accidental release of hazardous materials is less than significant, the City has added new Mitigation Measure 4.13-13h to impose additional Project reporting requirements and damage mechanism review requirements under certain circumstances. New Mitigation Measure 4.13-13f is set forth below and is included in the Project's Mitigation Monitoring and Reporting Program.

**Mitigation Measure 4.13-13a:** Prior to restarting construction of the Modernization Project, and again prior to commencement of Project operations, Chevron shall submit to the City a report describing the status of its compliance with all corrective action measures (including, but not limited to, compliance with probationary terms) imposed or agreed to as a result of the agency proceedings relating to the August 6, 2012 fire. As part of this report, Chevron shall describe its ongoing consultations with the agencies that investigated the August 6, 2012 fire, including Cal/OSHA, the CSB, and Contra Costa County, including any feedback or direction that has been provided by those agencies concerning implementation of the corrective action and agency recommendations and Chevron's response thereto.

**Mitigation Measure 4.13-13b:** Chevron will fund the costs of a qualified expert in refinery safety, to be selected and retained by the County within the County's discretion, to review the ISSAs, PHAs, LOPAs, and other safety documentation associated with events triggering such ISSAs, PHAs, or LOPAs. Chevron will also cooperate in providing access to Chevron documentation and facilities, as needed, for the expert and the County review. At such time as the RISO is amended, and to the extent this amendment requires Chevron to fund a new, full-time chemical process safety inspector to do inspections at the Facility, Chevron shall provide to CCHS the level of funding required to hire a new, full-time chemical process safety inspector for the Facility, and thereafter shall no longer be required to fund a separate third-party expert for reviews of PHAs, ISSAs, LOPAs, or other inspections.

**Mitigation Measure 4.13-13c:** Chevron will complete the tri-annual safety audits required by RISO. In addition, upon request by the County and/or City, Chevron shall fund the costs of a qualified third-party expert in refinery safety to perform a safety or compliance audit that would be provided to the County and/or City for review.

**Mitigation Measure 4.13-13d:** Chevron will report to the City quarterly, and shall provide a copy of this report to the County, after Project approval on the status of the corrective actions taken to implement agency recommendations to Chevron resulting from the August 6, 2012 fire, as well as any corrective actions taken by Chevron as a result of its own investigation. To the extent that Chevron elects not to implement a recommendation made by an agency, Chevron shall include in these quarterly reports a detailed explanation of its rationale for doing so.

**Mitigation Measure 4.13-13e:** Chevron shall fund the City's coordination with the CSB, Cal/OSHA, the BAAQMD, and the EPA on their investigations regarding the Facility to the extent these agencies request City involvement or consultation.

**Mitigation Measure 4.13-13f:** Chevron shall designate a Facility Area Business Unit Manager as the management level position bearing responsibility for any and all decisions to not implement a recommendation made during an inspection or turnaround. Chevron shall also designate a Facility Area Business Unit Manager as the management level position bearing responsibility for the establishment of the parameters in the Integrity Operating Window program, as well as for any decisions to override, bypass, or otherwise disregard an alert or flag that arises through the Integrity Operating Window program. The annual Reliability Program reports shall include clear identification of the individuals acting as Area Business Unit Managers to whom these accountabilities have been assigned. If the management position bearing any of these responsibilities changes within Chevron from the Area Business Unit Manager to another management-level job title, Chevron shall notify the City and include an update to this effect in its Reliability Program annual report.

**Mitigation Measure 4.13-13g:** Prior to the issuance of building and fire permits for the Project, Chevron shall provide to the City documentation demonstrating that it has completed implementation of (to Cal/OSHA's satisfaction) or otherwise discharged (through administrative appeal) all corrective or abatement actions resulting from Cal/OSHA's investigation following the August 2012 fire, and from Cal/OSHA's temporary leak seal investigation.

**Mitigation Measure 4.13-13h:** Chevron shall establish Integrity Operating Windows (IOWs) to monitor process temperatures, for purposes of identifying process temperature increases above the baseline period (2008-2010) for any individual circuit affected by the Modernization Project (as indicated in the Reliability Analysis Appendix 4.13-REL). The IOW shall establish temperature "flags" for each temperature monitoring location based on industry-standard damage curves. Prior to implementation of the IOW temperature flags, Chevron shall provide information to the City and County regarding the flag trigger temperature levels and the basis for them, and provide the City and County an opportunity to

review and comment on them before they are implemented. The IOW-2 temperature flag shall be triggered if the process temperature exceeds the established temperature for a cumulative 365 days, and shall require Chevron to perform a reliability analysis to evaluate, among other things, existing process conditions, flag dates for wall thickness, monitoring and inspection data, expected corrosion rates, metallurgy, existing damage mechanism reviews, and monitoring and inspection frequency. Chevron shall report the results of these reliability analyses in its annual Reliability Program report, and shall make process temperature data for all temperature monitoring locations within each process unit and circuit included in the Reliability Analysis (Appendix 4.13-REL) available for review by the City or County at the refinery. Chevron also shall include in its annual Reliability Program reports a listing of all events relating to process temperatures reaching levels that triggered an IOW-level 2 (defined by Chevron as a "slower acting event that requires technical evaluation and recommendations within one week") alert during the calendar year that is the subject of the annual report, as well as a description of the resolution of each such event. Chevron shall report to the City and County within one week of any IOW-level 1 (defined by Chevron as a "fast acting event that requires operator action within a shift or two") alert event relating to IOW process temperature parameters for circuits affected by the Modernization Project (as indicated by the Reliability Analysis Appendix 4.13-REL).

***F. Cumulative Effects Of The Proposed Project That That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Public Services**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in *Impact 4.14-1*, operation of the Modernization Project would result in the addition of 29 new permanent employees, and, as described in *Section 4.13, Public Safety of Volume 1* of the EIR, depending on the Maritime Security level, could result in need for additional police services as additional security measures may be activated, including posting of additional security personnel at critical locations, increased Richmond Police Department patrols, restricted access and parking, and other sensitive security measures to protect the Facility. However, any increased demand would not exceed the capacity of existing police services, so there would be no need for new, altered, or expanded police service facilities or equipment and no long-term impacts on the Richmond Police Department. This impact is considered less than significant under the CEQA Guidelines, and no mitigation is necessary; however, Chevron will implement as conditions of approval the following improvement measures to further reduce this already less than significant impact:

**Improvement Measure 4.14-1a:** During the construction phase, Chevron shall hire additional security services as necessary to compensate for the increase in personnel on-site.

**Improvement Measure 4.14-1b:** Mitigation Measures 4.16-1 through 4.16-5 and Improvement Measure 4.16-1 through 9 (see *Section 4.16, Transportation and Traffic* of

Volume 1 of the EIR) shall be implemented to reduce the demand for help from the Richmond Police Department for traffic-related issues.

Additionally, as discussed in *Impact 4.14-2*, operation of the Modernization Project would contribute to the ongoing need for the Richmond Fire Department to provide mutual aid to the Facility. To effectively provide mutual aid, the Richmond Fire Department needs heavy rescue training and heavy rescue equipment to respond to fires and their associated environmental impacts, including emissions of air pollutants and hazardous materials releases. However, the ongoing need for mutual aid would not trigger the need for new, altered, or expanded fire service facilities or equipment. This impact would be less than significant and no mitigation is necessary.

Although the Modernization Project could incrementally increase the demand for services from the Richmond Fire Department, there would be no need for new, altered, or expanded fire service facilities or equipment. This impact would be less than significant and no mitigation is necessary; however, to further reduce this less-than-significant impact, Chevron will implement as a condition of approval the following improvement measure:

**Improvement Measure 4.14-2:** Chevron and the Richmond Fire Department shall establish an agreement that ensures training on new equipment and the acquisition of any necessary heavy equipment (e.g., large diameter hoses, large scale pumping equipment).

As discussed in *Impact 4.14-3*, the Modernization Project could result in an increase in the number of calls to the Richmond Fire Department during the construction phase of the Project, and possibly more assistance calls for medical emergencies. However, these potential increases would not result in the need for new, altered, or expanded fire service facilities. This impact would be less than significant and no mitigation is necessary.

Finally, as discussed in *Impact 4.14-4*, the Modernization Project would not result in an increase in need for new, altered, or expanded public service facilities such as schools, libraries, or hospitals. This impact would be less than significant and no mitigation is necessary.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The Modernization Project, along with other anticipated growth and development in this area, would incrementally add to demand for public services. However, the Facility is staffed with both security and fire protection staff as a first response team. The City of Richmond public

services personnel (Richmond Police Department and Richmond Fire Department) are used only to augment existing Facility Security and Fire departments. This need generally is of a temporary and sporadic nature and would not present a significant adverse cumulative impact and no mitigation is necessary.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Parks and Recreation**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As discussed in *Impact 4.15-1*, the temporary increase in construction labor force during construction of the Modernization Project could increase the use of nearby neighborhood parks and increase demand for use of the proposed segments of the Bay Trail along Western Drive. As is discussed in *Section 4.12, Employment, Population, and Housing of Volume 1* of the EIR, no significant increase in local resident population would result from the Modernization Project. Correspondingly, no significant adverse impacts on local recreational facilities would occur as part of the operation of the Modernization Project and no mitigation is necessary.

The Modernization Project does not include recreational facilities and would not require the construction or expansion of recreational facilities. Thus, the Project would have no impact related to construction or expansion of recreational facilities and no mitigation is necessary.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The small increase in local resident population resulting from the Modernization Project (as identified in *Section 4.12, Employment, Population, and Housing of Volume 1* of the EIR), in conjunction with population and density of past, present, existing, pending, and reasonably

foreseeable future development in the City, could result in a cumulative increase in the demand for parks and recreation facilities.

However, the General Plan 2030 EIR states that because the parks that serve the City of Richmond, including regional parks, far exceed the City's per-resident parkland standard (3 acres of local parkland per 1,000 residents), the City would be adequately served in the future. The amount of existing parkland in the City of Richmond, together with City policies that require dedication of land or payment of an in-lieu fee for future residential subdivisions to further reduce the impact from increased demand and use from development that may occur, would ensure that the Modernization Project, together with past, present existing, pending, and reasonably foreseeable future projects, would not result in significant cumulative impacts to parks and recreational facilities and no mitigation is necessary.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Transportation And Traffic**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

Operation of the Modernization Project following Project Construction would generate about 94 new daily one-way truck trips from increased import and export of materials to and from the Facility. Facility permanent employment levels would increase by 29 employees. This amount of added traffic is less-than-significant when compared to the without-project 2016 Baseline scenario and the General Plan 2030 traffic volumes within the study area intersections and no mitigation is required.

As discussed in EIR *Volume 1, Section 4.16.3.3*, there are no airports located within the vicinity of the Project site, nor is the Project site located within any flight paths. The Modernization Project would not involve aircraft nor be near an airport, and the Project structures would not intrude into aircraft flight paths or air traffic spaces. Therefore, the Modernization Project will have no impact on air traffic patterns that results in substantial safety risks. Moreover, the Modernization Project would not involve redesign or reconfiguration of roadways. Measures included to mitigate traffic volume impacts would eliminate any increase in hazard due to added trucks and worker automobiles accessing the Facility. There would be no incompatible uses, nor any roadway design changes. Therefore the Project will have no impact on road hazards.

As further discussed in EIR *Volume 1, Section 4.16.3.3*, the Modernization Project would not involve obstruction, redesign, or reconfiguration of roadways. The Modernization Project would temporarily increase congestion during construction on roadways adjacent to the Project site.

However, mitigation measures presented in the EIR and discussed below (Mitigation Measures 4.16-1 through 4.16-12) would reduce congestion on these roadways. As a result, emergency vehicles would experience similar or less delay than under Baseline (2016) conditions and emergency vehicle response times would not be affected. Therefore, the Project will have no impact on emergency access.

Finally, as discussed in EIR *Volume 1, Section 4.16.3.3*, the Modernization Project would not involve obstruction, redesign or reconfiguration of roadways and would not affect the use of the roadway network by automobiles or bicycles, nor would it affect bus routes or bicycle racks. Moreover, the Project would have little or no adverse impact on population and thus there would be no corresponding increase in transit demand. In addition, proposed measures to mitigate the impacts of Modernization Project traffic would eliminate any increase in hazards to bicyclists through improvements to traffic flow during peak hours during Project construction. Therefore, the Project will have no adverse impact on adopted policies, plans, or programs supporting alternative transportation.

***B. Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

**Potential Significant Effect**

As described in *Impact 4.16-1*, without appropriate mitigation, Project construction-generated increases in traffic volumes would result in a significant adverse impact to PM peak hour traffic operations at the intersection of Castro Street and I-580 Westbound Ramps.

**Summary of Specific Impact**

Project construction-related traffic is projected to add a substantial amount of traffic to the critical movements of the Castro Street/I-580 Westbound Ramps intersection, which would result in a significant worsening of its operating conditions (from level of service of LOS E to LOS F during the PM peak hour).

**Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-1:** Chevron shall work with the director of the City of Richmond Public Works Department (or the director's designated representative) and Caltrans to provide modified traffic control implemented at the intersection of Castro Street/I-580 Westbound Ramps during peak arrival and departure times in the PM peak hour. The

modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the inter-section to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of Richmond police officers or other law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).

Implementation of Mitigation Measure 4.16-1 would reduce construction traffic's impact on the Castro Street/I-580 Westbound Ramps intersection from SOL F to SOL D, which is an improvement over the Baseline level of service (SOL E). Therefore the adverse impact described above will be mitigated to a less-than-significant level

### **Potential Significant Effect**

As described in *Impact 4.16-2*, without appropriate mitigation, construction of the Modernization Project would cause a substantial adverse impact to the PM peak hour traffic operations at the intersection of Richmond Parkway and Gertrude Avenue.

### **Summary of Specific Impact**

Modernization Project construction-related traffic is projected to add a substantial amount of traffic to the critical movements of the Richmond Parkway/Gertrude Avenue intersection, which would result in a significant worsening of its operating conditions. (The intersection would continue to operate at LOS F during the PM peak hour with the Project increasing average intersection delay by about 14 seconds.)

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-2:** The following measures shall be implemented at the intersection of Richmond Parkway/Gertrude Avenue:

2a: Chevron shall work with the director of the City of Richmond Public Works Department (or the director's designated representative) to provide modified traffic control during peak arrival and departure times in the PM peak hour. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard

traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).

2b: During the peak congestion periods, through the use of traffic cones (and flaggers as needed), Chevron shall reconfigure the southbound (Richmond Parkway) approach to the intersection to provide one shared left-through lane, one through lane, and one shared right-through lane.

Implementation of Mitigation Measure 4.16-2 would reduce construction traffic's impact on the Richmond Parkway/Gertrude Avenue intersection from SOL F to SOL E, which is an improvement over the Baseline level of service. Therefore the adverse impact described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-3*, without appropriate mitigation, construction of the Modernization Project plus Other Project<sup>3</sup> conditions would cause a substantial adverse impact to the PM peak hour traffic operations at the intersection of Castro Street and I-580 Westbound Ramps.

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction-related traffic is projected to add a substantial amount of traffic to the critical movements of the Castro Street/I-580 Westbound Ramps intersection, which would result in a significant worsening of its operating conditions (from LOS E to LOS F during the PM peak hour).

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-3:** Mitigation Measure 4.16-1 shall be implemented.

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<sup>3</sup> As explained in EIR, Volume 1, Section 4.16.3.2, "Other Projects" include construction worker traffic and truck traffic associated with other construction projects that would coincide with Modernization Project construction, as defined in EIR *Volume 2, Appendix 4.16: Traffic -Technical Data*.

Implementation of Mitigation Measure 4.16-3, implementing the measures described above in mitigation Measure 4.16-1, will improve intersection operating conditions to LOS E during the PM peak hour, reducing this impact to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-4*, without appropriate mitigation, Modernization Project construction-related traffic plus Other Project construction-related traffic would result in a significant adverse impact to PM peak hour traffic operations at the signalized study intersection of Castro Street/Hensley Street.

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction-related traffic is projected to add a substantial amount of traffic to the critical movements of the intersection of Castro Street and Hensley Street, which would result in a significant worsening of its operating conditions (from LOS C to LOS F during the PM peak hour).

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-4:** The following measure shall be implemented at the intersection of Castro Street/Hensley Street:

Chevron shall work with the director of the City of Richmond Public Works Department (or the director's designated representative) to provide modified traffic control during peak arrival and departure times in the PM peak hour. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).

Implementation of Mitigation Measure 4.16-4 above will improve intersection operating conditions to LOS C during the PM peak hour, on par with Baseline conditions, reducing this impact to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-5*, without appropriate mitigation, Modernization Project construction-related traffic plus Other Project construction-related traffic would result in a significant adverse impact to PM peak hour traffic operations at the signalized study intersection of Richmond Parkway and Gertrude Avenue.

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction-related traffic is projected to add a substantial amount of traffic to the critical movements of the Richmond Parkway/Gertrude Avenue intersection, which would result in a significant worsening of its operating conditions. (The intersection would continue to operate at LOS F during the PM peak hour with the Project increasing average intersection delay by about 23 seconds).

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-5:** Mitigation Measure 4.16-2 shall be implemented.

Implementation of Mitigation Measure 4.16-5, which requires implementation of the measures described in Mitigation Measure 4.16-2, will reduce construction traffic's impact on the Richmond Parkway/Gertrude Avenue intersection from SOL F to SOL E, which is an improvement over the Baseline level of service. Therefore the adverse impact described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-6*, without appropriate mitigation, Modernization Project construction-related traffic plus Other Project construction-related traffic, plus the addition of a Major Turnaround (*i.e.*, scheduled Facility maintenance activities, including shutdowns for maintenance of major Facility components), would result in a significant adverse impact to PM peak hour traffic operations at the signalized study intersection of Castro Street/I-580 Westbound.

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction-related traffic and traffic associated with and a Major Turnaround is projected to add a

substantial amount of traffic to the critical movements of the Castro Street/I-580 Westbound ramps intersection, which would result in a significant worsening of its operating conditions from LOS E to LOS F during the PM peak hour.

**Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-6:** Mitigation Measure 4.16-1 shall be implemented.

Implementation of Mitigation Measure 4.16-6, which requires implementation of the traffic control measures described in Mitigation Measure 4.16-1, will reduce construction traffic's impact on the Castro Street/I-580 Westbound ramps intersection from SOL F to SOL E, which is an improvement over the Baseline level of service. Therefore the adverse impact described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-7*, without appropriate mitigation, Modernization Project construction-related traffic, plus Other Projects construction-related traffic, plus the addition of a Major Turnaround, would result in a significant adverse impact to AM and PM peak hour traffic operations at the signalized study intersection of Castro Street and General Chemical Access (Gate 91).

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction- and major turnaround-related traffic is projected to add a substantial amount of traffic to the critical movements of the Castro Street/General Chemical Access (Gate 91) intersection, which would result in a significant worsening of its operating conditions (from LOS C or better to LOS F).

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-7:** The following measures shall be implemented, in consultation with the Public Works Director or his designer, at the intersection of Castro Street/General Chemical Access:

7a: During the AM peak period, through the use of traffic cones (and flaggers as needed), Chevron shall reconfigure the northbound (Castro Street) approach to the intersection to provide two left-turn lanes and one shared right-through lane. The inbound approach on General Chemical Access shall also be reconfigured to provide two receiving lanes.

7b: During the PM peak period, through the use of traffic cones (and flaggers as needed), Chevron shall reconfigure the eastbound (General Chemical Access) approach to the intersection to provide two exclusive right-turn lanes and one exclusive left-turn lane.

7c: Chevron shall work with the director of the City of Richmond Public Works Department (or the director's designated representative) to provide modified traffic control during peak arrival and departure times in the AM and PM peak hours. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).

Implementation of Mitigation Measures 4.16-7a through 4.16-7c will improve intersection operating conditions to LOS D during both AM and PM peak hours, reducing this impact to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-8*, without appropriate mitigation, Modernization Project construction-related traffic, plus Other Project construction-related traffic, plus the addition of a Major Turnaround, would result in a significant adverse impact to the PM peak hour traffic operations at the signalized study intersection of Castro Street and Hensley Street.

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction- and Major Turnaround-related traffic is projected to add a substantial amount of traffic to the critical movements of the Castro Street/Hensley Street intersection, which would result in a significant worsening of its operating conditions (from LOS C to LOS F during the PM peak hour).

### **Finding**

Changes or alterations have been required in, or incorporated into, the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-8:** Mitigation Measure 4.16-4 shall be implemented.

Implementation of Mitigation Measures 4.16-8, which requires implementation of the measures described above in Mitigation Measure 4.16-4, will improve intersection operating conditions to LOS D during the PM peak hours, reducing this impact to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-9*, without appropriate mitigation, Modernization Project construction-related traffic, plus Other Project construction-related traffic volumes, plus the addition of a Major turnaround, would result in a significant adverse impact to AM and PM peak hour traffic operations at the signalized study intersection of Richmond Parkway and Gertrude Avenue.

### **Summary of Specific Impact**

Modernization Project construction-related traffic combined with Other Project construction- and Major Turnaround-related traffic is projected to add a substantial amount of traffic to the critical movements of the Richmond Parkway and Gertrude Avenue intersection, which would result in a significant worsening of its from LOS C to LOS E during the AM peak hour and would increase the average intersection delay, currently at LOS F, by about 34 seconds.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-9:** Mitigation Measure 4.16-2 shall be implemented.

Implementation of Mitigation Measures 4.16-9, which requires implementation of the measures described above in Mitigation Measure 4.16-2, will improve intersection operating conditions to LOS B during the AM and LOS E during the PM peak hours, which is an improvement over the

Baseline level of service. Therefore the adverse impact described above will be mitigated to a less-than-significant level.

Although not necessary to mitigate the above described Impacts 4.16-1 through 4.16-9 to less-than-significant levels, Chevron will implement as a condition of approval one or more of the following improvement measures (discussed in EIR, *Volume 1, Section 4.16.4.2.3*) to further reduce Modernization Project construction impacts by reducing construction-related traffic trips during the AM and PM peak hours: (i) Chevron shall stagger the hours of operation of the craft labor so that the construction-related traffic would be distributed over the peak and non-peak hours of traffic operation; (ii) Chevron shall promote the use of car-sharing by the craft labor; (iii) Chevron shall coordinate the schedule among construction of the Modernization Project, construction of the other projects, and the major facility turnaround to minimize combined traffic generation on any single day.

### **Potential Significant Effect**

As described in *Impact 4.16-10*, without appropriate mitigation, the use of big trucks on area roadways for Modernization Project construction could result in substantial damage or wear of public roadways.

### **Summary of Specific Impact**

The use of large trucks to transport equipment and material during construction to and from the Project work sites could affect road conditions on the designated haul routes by increasing the rate of road wear. The degree to which this impact would occur depends on the roadway design and the existing condition of the road. Freeways, such as I-580, are designed to handle a mix of vehicle types, including heavy trucks. The Modernization Project's impacts are expected to be negligible on those roads. Arterials, such as Castro Street and Richmond Parkway, are likewise designed to handle a mix of vehicle types. However, because of the potential for excessive road wear due to Project construction trucks, mitigations, such as Chevron's repair of roads damaged as a result of Modernization Project construction activity, have been identified to mitigate this potentially significant adverse impact to a less-than-significant level.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-10:** Chevron shall repair any roads damaged as a result of Modernization Project construction activity to a structural condition equal to that which existed prior to construction activity. Prior to Project construction, City of Richmond Public

Works Department or the Director's designated representative would document road conditions for all routes that would be used by Project construction-related vehicles. The City would also document road conditions after Project construction is completed. The pre- and post-construction conditions of the haul routes shall be reviewed, and Chevron or contractor(s), and staff of the Public Works Department, would enter into an agreement prior to construction that details the pre-construction conditions and the post-construction requirements of a rehabilitation program.

Implementation of Mitigation Measures 4.16-10 will mitigate damage to roads impacted by construction activity by returning those roads to their pre-Modernization Project condition at the cost of the Project proponent. Therefore the adverse impact described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-11*, Modernization Project construction-related traffic, plus Other Projects construction-related traffic, plus the addition of a Major Turnaround, would add new trips to the intersections at Richmond Parkway and Pittsburg Avenue as well as Richmond Parkway and Parr Boulevard. While not expected, it is possible that, without appropriate mitigation, the addition of new trips could have a significant adverse impact on AM and PM peak hour traffic at these intersections.

### **Summary of Specific Impact**

The intersections at Richmond Parkway and Pittsburg Avenue as well as Richmond Parkway and Parr Boulevard currently operate at LOS A and C or better. It is not expected that the addition of new trips due to Modernization Project construction, Other Project construction or a Major Turnaround would significantly impact the level of service at these intersections, but there is the potential for increased trips to have an adverse traffic impact at AM and PM peak hour operations.

### **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-11:** These intersections are maintained by the County, and thus the City has no independent jurisdiction to enforce any requirement to mitigate impacts at these intersections. However the City and Chevron shall coordinate with the Contra Costa County Department of Public Works to implement the following mitigation measure at the

intersections of Richmond Parkway and Pittsburg Avenue and Richmond Parkway and Parr Boulevard:

11a: Collect traffic data at the Richmond Parkway/Pittsburg Avenue and Richmond Parkway/Parr Boulevard intersections two weeks after start of construction during the AM and PM peak commute periods (6:00 to 9:00 a.m. and 4:00 to 6:00 p.m.). If traffic data indicate that either or both intersections operate below the established standard (i.e., LOS E or LOS F), Chevron shall work with the director of the City of Richmond Public Works Department (or the director's designated representative) in coordination with the Contra Costa County Public Works Department to implement one or more of the of the following during the construction period:

1. Provide modified traffic control during the peak AM and/or PM peak commute periods. The modified traffic control shall be accomplished by one or more of the following methods:
  - a. Posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers)
  - b. Programming an alternate signal timing plan that would be in operation during the peak commute periods
  - c. Posting traffic control officers to manually control traffic movements during peak commute periods
2. Using cones and/or flaggers, temporarily reconfigure the lane assignments at the intersection during peak AM and/or PM peak commute periods Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (2).

Implementation of Mitigation Measures 4.16-11 will ensure that traffic conditions at peak hours remain above the established standard for level of service and will mitigate potential adverse traffic impacts to the intersections at Richmond Parkway and Pittsburg Avenue as well as Richmond Parkway and Parr Boulevard. Therefore the potential significant adverse traffic impacts described above will be mitigated to a less-than-significant level.

### **Potential Significant Effect**

As described in *Impact 4.16-12*, without mitigation, the Modernization Project could increase the potential for traffic and emergency response hazard from non-compliant signage at the Richmond Lane railroad crossing, or if Project construction activity did not comply with applicable California Public Utilities Commission (CPUC) General Orders.

### **Summary of Specific Impact**

The proposed Project could cause a significant effect on traffic and emergency response hazard from non-compliant signage, or non-compliant construction activities, at the Richmond Lane railroad crossing.

## **Finding**

Changes or alterations have been required in, or incorporated into the Project that substantially lessen these potentially significant effects as identified in the Final EIR, so that environmental effects after mitigation are reduced to a less-than-significant level.

### **Brief Explanation of the Rationale for the Finding**

Pursuant to Public Resources Code section 21081, subdivision (a)(1), the City finds that the modernization Project's adherence to the following mitigation measure will reduce the potential impact of this significant effect to a less-than-significant level.

**Mitigation Measure 4.16-12:** Chevron shall post the correct emergency information at the Richmond Lane rail spur crossing in accordance with GO 75-D and evidence of compliance shall be provided to the City prior to issuance of any building or grading permits.

All construction located near the rail track within the Project site shall comply with the Public Utilities Commission's General Orders (GO). Details on the Commission's General Orders are located here: <http://www.cpuc.ca.gov/crossings>.

These General Orders consist of:

- GO 26-D: Clearances on railroads and street railroads as to side and overhead structures, parallel tracks and crossings
- GO 72-B: Construction and Maintenance – Standard types of pavement construction at railroad grade crossings
- GO 75-D: Warning Devices for at-grade railroad crossings
- GO 88-B: Alterations of railroad crossings
- GO 118: Construction, reconstruction and maintenance of walkways and control, of vegetation adjacent to railroad tracks.

Implementation of Mitigation Measures 4.16-12 will ensure that traffic and emergency response hazards from non-compliant signage and non-complaint construction activity at or near the Richmond Lane railroad crossing are mitigated to a less-than-significant level.

### ***C. Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

The cumulative 2030 traffic scenario reflects regional growth based on projections that are consistent with forecasts by the Association of Bay Area Governments and accounts for the completion and occupancy of the proposed Hensley Street and Kelham Warehouse Redevelopment Project. Assuming the maximum 100% utilization of the Modernization Project, the level of traffic increase due to the operation of the Project would conservatively be 58 new daily commuter trips and approximately 94 new daily one-way truck trips due to increased import and export of materials to and from the Facility, occurring primarily during off-peak hours. This contribution to the predicted levels of service at area intersections would be less than 1%, or within the fluctuation in day-to-day traffic volumes and unnoticeable by most drivers. Therefore, the Project's impact on traffic operation conditions would not be cumulatively considerable.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Utilities and Services**

***A. Environmental Effects Of The Project Found To Have No Impact On The Environment, Or Have A Less Than Significant Impact On The Environment.***

As explained in EIR, *Section 4.17.3.3*, although the Facility lies within Richmond Sewer District's service area, the Facility collects, treats, and discharges all industrial wastewater and stormwater using its own private facilities. Any increase in wastewater generation would not affect any public utility sewage conveyance or treatment facilities, and therefore would have no impact on public facilities. Also, because the Facility is already served by its existing water and wastewater collection and treatment systems, no construction of new or expanded water or wastewater treatment facilities is proposed. Moreover, there is no potential that the Project will result in a determination by the wastewater treatment provider that serves the project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments since the Facility collects, treats, and discharges all wastewater and stormwater using its own facilities, with the exception of sanitary sewage. The Facility discharges sanitary waste to the City of Richmond's Sanitary Sewer District, but would cause minimal change to the sanitary sewer discharge levels and would not adversely affect the capacity of the Richmond Sewer District's facility.

As discussed in *Impact 4.17-1*, it is anticipated that no additional solid waste would be generated during Modernization Project operations beyond the amount currently generated at the Facility. However, solid waste is expected to be generated during construction of the Modernization Project facilities. Construction and demolition wastes would include materials such as asphalt, concrete, metals, and other site preparation materials, as well as typical construction debris such as packaging materials. Despite this increase, the Project would not affect the Facility's ability to continue to comply with federal, State, and local statutes and regulations related to solid waste. Thus, the impacts from solid waste generation and disposed would be less than significant and no mitigation is necessary. However, to further reduce this insignificant impact, Chevron will implement as a condition of approval the following improvement measure:

**Improvement Measure 4.17-1:** Prior to issuance of a demolition, grading, or building permit, Chevron shall submit a Debris Recovery Plan and Debris Recovery Report demonstrating that at least 50% of the construction and demolition debris generated on the jobsite is reused, recycled, or otherwise diverted. The Debris Recovery Plan shall be submitted to the City for review and approval.

As discussed in *Impact 4.17-2* and *Impact 4.17-3*, implementation of the Modernization Project would result in an increase in water use both under the 93% Utilization Scenario and the 100% Utilization Scenario. The 93% Utilization Scenario would result in a net increase in total water use of 0.7 MGD. In 2014, East Bay Municipal Utility District (EBMUD) confirmed that adequate existing supplies are available for a 0.7 MGD increase in water usage for Refinery Operations (see *Appendix 4.17 of Volume 2* of the EIR). Since there is adequate water supply available for the 0.7 MGD increase estimated for the 93% Utilization Scenario, this is a less-than-significant impact and no mitigation is necessary. Under the 100% Utilization Scenario, the Modernization Project would result in an increase of 1.4 MGD of water usage, for a total of 12.7 MGD of EBMUD fresh and recycled water. In 2014, EBMUD confirmed that existing supplies are available for the 1.4 MGD increase in water usage for the Facility. Since there is an adequate water supply for the 1.4 MGD estimated increase under the 100% Utilization Scenario, this would be a less-than-significant impact and no mitigation is necessary.

In addition, the Modernization Project would implement process changes that would save water, including recovery and reuse of condensate water and water reuse Project Design Features that would offset some of the increased water use of the Project. The two water reuse Project Design Features include: 1) the stripped sour water reuse in the distillation and reforming area; and 2) stripped sour water reuse in the South Isomax area. Both of these Project Design Features are described in more detail in *Section 4.9, Hydrology and Water Quality of Volume 1* of the EIR.

**B. *Environmental Effects Of The Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

**C. *Environmental Effects Of The Project That Cannot Be Mitigated To A Level Less Than Significant.***

None.

***D. Cumulative Effects Of The Proposed Project That Will Have A Less Than Significant Impact On The Environment.***

Because the Modernization Project includes only a negligible increase in sanitary sewage generated (associated with the 29 new employees) that can be accommodated by the municipal sewage plants, the Project would not result in a cumulatively considerable contribution to wastewater utility impacts. Similarly, the Project would not generate any material increase in non-hazardous solid waste during operations and would contribute only short-term construction-related non-hazardous wastes to the Potrero Hills Landfill, which has substantial long-term capacity to accept such wastes. Thus the Project would not result in a cumulatively considerable contribution to any cumulative solid waste landfill impacts.

The Modernization Project and other projects (see cumulative project list in *Appendix 4.0, Cumulative Projects of Volume 2* of the EIR) would produce waste due to demolition of obsolete facilities (such as tanks) that would be replaced and the obsolete tanks would be recycled. The construction and operation of the Modernization Project, or of other cumulative refinery projects, would have less-than-significant adverse impacts on solid waste disposal facilities or services, because there is adequate landfill capacity for the solid waste that would be produced in the construction and operational phases of the Project. Thus, no mitigation is necessary.

As described above, the Modernization Project would increase the Facility's consumption of water over current municipal water usage. However, estimated water use for the Modernization Project under the 93% and 100% Utilization Scenarios falls within the demand projections and overall plans for water service, conservation, and recycling contemplated by the EBMUD Urban Water Management Plan (UWMP). One of the main purposes of the UWMP is to consider cumulative water needs and plan for these needs. Since the Modernization Project is consistent with the UWMP, it would not contribute to a significant cumulative impact and no mitigation is necessary.

***E. Cumulative Effects Of The Proposed Project That Are Potentially Significant, But That Can Be Mitigated To Less Than Significant Level.***

None.

***F. Cumulative Effects Of The Proposed Project That Cannot Be Mitigated To Less Than Significant Level.***

None.

## **Growth Inducing Impacts**

Consistent with Section 15126.2(d) of the CEQA Guidelines, a project is considered growth-inducing if it could directly or indirectly foster economic or population growth or the construction of additional housing. The City finds that implementation of the Modernization Project would have no significant adverse growth-inducing impacts because the Project would add only 29 new permanent employees and, as discussed in *Impact 4.12-1*, the housing vacancy

rate in the Bay Area is sufficient to meet this potential demand for housing. The City finds that the temporary addition of the Project's construction workforce to the Facility would not be considered a significant adverse growth-inducing impact because it is anticipated that the bulk of the construction workforce would be drawn from the construction labor available in Richmond and the rest of the Bay Area. A Modernization Project Labor Agreement was approved between the Contra Costa Building and Construction Trade Union and Chevron in July 2013. This agreement specifies that Chevron and Building Trades are committed to hire qualified local residents. All current Bay Area residents would be expected to commute rather than move to Richmond. In addition, a fraction of the construction workforce for the Project that would be drawn from outside of the Bay Area would be on a temporary basis and would not permanently increase population in the Richmond Area. Moreover, the Project would not eliminate any existing obstacles to growth or otherwise facilitate development intensification in the City or on adjacent sites, nor have any impact on the rate of growth due to births. Thus, the City finds that the Project would not directly or indirectly induce population or economic growth.

## **Significant and Unavoidable Impacts**

The City finds that implementation of the Modernization Project would have no significant and unavoidable impacts. Therefore, a statement of overriding considerations is not required. In other words, the City need not consider whether overriding economic, social, and other considerations outweigh the significant, unavoidable effects of the Project, because the Project simply will not create any significant unavoidable effects.

## **Final EIR Revisions to the Draft EIR**

A handful of commenters suggested additional conditions of approval, mitigation measures or modifications to the measures recommended in the Draft EIR. In considering specific recommendations from commenters, the City has been cognizant of its legal obligation under CEQA to substantially lessen or avoid significant environmental effects to the extent feasible. The City recognizes, moreover, that comments frequently offer thoughtful suggestions regarding how a commenter believes that a particular mitigation measure can be modified, or perhaps changed significantly, in order to more effectively, in the commenter's eyes, reduce the severity of environmental effects. The City is also cognizant, however, that the mitigation measures recommended in the EIR represent the professional judgment and long experience of the City's expert staff and environmental consultants. The City therefore believes that these recommendations should not be lightly altered. Thus, in considering commenters' suggested changes or additions to the mitigation measures as set forth in the Draft and Final EIRs, the City, in determining whether to accept such suggestions, either in whole or in part, has considered the following factors, among others: (i) whether the suggestion relates to an environmental impact that can already be mitigated to less than significant levels by proposed mitigation measures in the Draft EIR; (ii) whether the proposed language represents a clear improvement, from an environmental standpoint, over the draft language that a commenter seeks to replace; (iii) whether the proposed language is sufficiently clear as to be easily understood by those who will implement the mitigation as finally adopted; (iv) whether the language might be too inflexible to allow for pragmatic implementation; (v) whether the suggestions are feasible from an economic,

technical, legal, or other standpoint; and (vi) whether the proposed language is consistent with the Project objectives.

As is often evident from the specific responses given to specific suggestions, City staff and consultants spent time carefully considering and weighing proposed or requested mitigation language. In some instances, the City revised mitigation measures in accordance with the comments. In other instances, the City developed alternative language or proposed conditions of approval addressing the same issue that was of concern to a commenter. In no instance, however, did the City fail to take seriously a suggestion made by a commenter or fail to appreciate the sincere effort that went into the formulation of suggestions.

In response to comments received on the Draft EIR, the Final EIR incorporates various revisions both to text of the EIR and to the required mitigation measures. These changes are reflected in Chapter 4 of Volume 3 of the EIR, the Project's Mitigation Monitoring and Reporting Program, and in these CEQA Findings, and most notably include:

- The addition of two new alternatives to the project, briefly described as follows:
  - *Reduced Sulfur Processing/No Increase in Refinery GHG Emissions Alternative:* This alternative would limit sulfur removal to 750 long tons per day, an increase of 150 long tons compared to current permit limits but not the full increase of 300 long tons requested by Chevron as part of the Modernization Project. This alternative would also limit GHG emissions from Refinery operations (including shipping/transportation) to baseline levels of 4,602,947 metric tons per year, and thus allow no physical increase in GHG emissions from the Refinery over Baseline. This alternative would also implement the Project's commitment to no net increase in greenhouse gas emissions, CAP emissions, and health risks related to TAC emissions, and would be the environmentally superior alternative to the Project.
  - *Reduced Sulfur Processing/No Increase in Refinery GHG Emissions/No FCC FHT Expansion Alternative:* This alternative includes all features of the alternative described above as well as the elimination of the expansion of the FCC FHT that is proposed as part of the Modernization Project. The Modernization Project proposes to expand the FCC FHT throughput capacity from 65,000 to 80,000 barrels per day, which would enable the Facility to import and process higher sulfur gas oils in lieu of importing low sulfur gas oils that are fed directly to the Facility's FCC unit. Under this alternative, this FCC FHT modification would not be completed. This alternative would also implement the Project's commitment to no net increase in greenhouse gas emissions, CAP emissions, and health risks related to TAC emissions.
- Chevron is required to accept a new lower permit limit of 294 million scf/day as a condition of commencing operation of the hydrogen plant.

- Revisions to Mitigation Measure 4.3-5a, 5b, 5d, 5e, and 5f to clarify the sequencing of NO<sub>x</sub>, PM<sub>10</sub>, SO<sub>x</sub>, CO, and ROG mitigation measures, including that the retirement of emission reduction credits may only be implemented after implementation of other mitigation measures, and that if all mitigation measures (including retirement of credits) are insufficient to reduce emissions below the significance threshold or if such emissions remain above Baseline levels on a net basis, then Chevron shall curtail operations such that emissions are reduced to Baseline levels on a net basis.
- Revisions to Mitigation Measure 4.3-5f to require additional emission reduction measures.
- The addition of new Mitigation Measure 4.3-5h, requiring Chevron to secure a permit amendment from BAAQMD reducing the annual throughput limit of the SDA unit to 50,000 barrels per day.
- The addition of new Mitigation Measure 4.3-5i, requiring Chevron to secure a permit amendment reducing the hydrogen production limit of each train of the new hydrogen plant from 140 mmscf/day to 122 mmscf/day.
- Revisions to Mitigation Measure 4.3-6 to clarify the sequencing of TAC emissions mitigation measures, to require engine upgrades to one tug boat prior to operation of the Project, and to additional tugs (up to a total of six) as needed to achieve the no net increase commitment, and to clarify that if mitigation is insufficient to keep health risks from TAC emissions at or below Baseline levels on a net basis, Chevron shall curtail operations as necessary to ensure that Baseline health risk levels are not exceeded.
- Revisions to Mitigation Measure 4.3-8 to require additional odor mitigation measures, including triggers for Chevron to submit an Odor Management Plan, to implement odor patrols, investigate odor complains, to implement odor reduction measures, and to monitor and report on odor reduction measures.
- Revisions to Mitigation Measure 4.8-2 to clarify the sequencing of greenhouse gas emissions mitigation measures, and to clarify that if mitigation does not reduce Facility greenhouse gas emissions to Baseline levels on an annual net basis, Chevron shall curtail operations as necessary to reduce Facility greenhouse gas emissions to Baseline levels on an annual net basis.
- Revisions to Mitigation Measures 4.13-4a, 7a, 7d, 13b, and 13d to ensure that both the City and County are included in the subject mitigation requirements, such as receiving reports from Chevron and having the ability to retain third-party experts to support the City's and County's role in monitoring compliance with the mitigation measures and providing oversight of the Facility with such costs being paid for by Chevron.
- Revisions to Mitigation Measure 4.13-4b to require that revised Risk Management Plans (RMPs) and Safety Plans be submitted by the earlier of (1) prior to operations; and (2) timing requirements under applicable regulations, and to clarify that Chevron shall cause

a revised RMP and Safety Plan to be submitted by the operator of the new hydrogen plant.

- Revisions to Mitigation Measures 4.13-4c and 4d to clarify that Chevron shall cause to be submitted by the operator of the hydrogen plant an amended hazardous materials business plan, and shall cause to be updated the Spill Prevention Control and Countermeasure plans and Emergency Response Plans for the hydrogen plant.
- The addition of new Mitigation Measure 4.13-4f, requiring that Chevron ensure through its contractual arrangements with Praxair that Praxair will be required to implement all mitigation measures with regard to the hydrogen plant,
- The addition of new Mitigation Measure 4.13-7h requiring Chevron to fund the costs of a third party expert to assist the County and the City with the review of the annual Reliability Program reports and other submittals required by the Reliability Program and related mitigation measures.
- The addition of new Mitigation Measure 4.13-7i, requiring Chevron to adhere to stated total acid number (TAN) limits for crude and gas oils and blends, requiring Chevron to conduct management of change evaluations including consideration of damage mechanism reviews, for any TAN deviations from the limits, requiring Chevron to designate a management representative with authority to approve any TAN deviation; and requiring Chevron to report TAN information and deviation information in its annual Reliability Program reports.
- The addition of new Mitigation Measure 4.13-7j, requiring Chevron to include in its annual Reliability Program reports the annual average sulfur content of feedstocks for each year since and including 2008.
- Revision of Mitigation Measure 4.13-11b to clarify that Facility personnel and contractors must be trained on revised emergency procedures, including to ensure all non-essential personnel stay outside of hazardous areas during an emergency.
- The addition of new Mitigation Measure 4.13-13f requiring Chevron to designate a management position bearing responsibility for any and all decisions to not implement a recommendation made during an inspection or turnaround., and requiring Chevron to designate a management position responsible for the establishment of the parameters in the Integrity Operating Window (IOW) program, as well as for decisions to override, bypass, or otherwise disregard an alert or flag that arises through the IOW program.
- The addition of new Mitigation Measure 4.13-13g, requiring prior to issuance of building and fire permits, Chevron to provide to the City documentation demonstrating Chevron has completed implementation of (to Cal/OSHA's satisfaction) or otherwise discharged (through administrative appeal) all corrective or abatement actions resulting from Cal/OSHA's investigation following the August 2012 fire, and from Cal/OSHA's temporary leak seal investigation.

- The addition of new Mitigation Measure 4.16-11 to mitigate traffic impacts associated with Project construction.
- The addition of new Mitigation Measure 4.16-12 to mitigate the Project's potential for traffic and emergency response hazards from non-compliant signage at the Richmond Lane railroad crossing.
- The addition of new Appendix 4.3-MIT: Mitigation Measures clarifying the emission reduction calculations used in the Draft EIR to reach the conclusion that, as mitigated, the Project would result in no net increase in criteria air pollutants and health risks from toxic air contaminant emissions for both the 93% and 100% utilization scenarios. This new appendix also clarifies the required sequencing of emissions mitigation measures.

## Findings Regarding Recirculation Of The Draft EIR

The City Council adopts the following findings with respect to whether to recirculate the Draft EIR. Under section 15088.5 of the CEQA Guidelines, recirculation of an EIR is required when “significant new information” is added to the EIR after public notice is given of the availability of the Draft EIR for public review but prior to certification of the Final EIR. The term “information” can include changes in the project or environmental setting, as well as additional data or other information. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement. “Significant new information” requiring recirculation includes, for example, a disclosure showing that:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project’s proponents decline to adopt it.
- (4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

(CEQA Guidelines, § 15088.5.)

Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR. The above standard is “not intend[ed] to promote endless rounds of revision and recirculation of EIRs.” (*Laurel Heights*

*Improvement Assn. v. Regents of the University of California* (1993) 6 Cal. 4th 1112, 1132.) “Recirculation was intended to be an exception, rather than the general rule.” (*Ibid.*)

The City Council recognizes that the Final EIR contains additions, clarifications, modifications, and other changes to the Draft EIR. As noted above, some comments on the Draft EIR either expressly or impliedly sought changes to proposed mitigation measures identified in the Draft EIR as well as additional mitigation measures. As explained in the Final EIR (Text Revisions), some of the suggestions were found to be appropriate and feasible and were adopted in the Final EIR. Where changes have been made to mitigation measures, these changes do not change the significance of any conclusions presented in the Draft EIR.

Additionally, subsequent to the close of the public comment period on May 2, 2014, the City received two letters from the California Attorney General's office (AGO). The first letter from the AGO was received on Friday June 6, 2014, following several meetings between the AGO staff and the City's EIR team. Several of the mitigation measures and the two new alternatives described in the immediately preceding section of these CEQA Findings were added in the Final EIR to address the AGO's concerns expressed in its June 6 letter. In addition, based on subsequent discussions with AGO staff, Mitigation Measure 4.13-7i (regarding process temperatures) and Mitigation Measure 4.13-13h (regarding TAN/naphthenic acid corrosion risks) are hereby added to the Mitigation Monitoring and Reporting Program (MMRP). The final MMRP also includes two minor corrections (Mitigation Measure 4.13-8 and text following Mitigation Measure 4.8-1), that represent inadvertent editorial omissions in the draft MMRP included in the Final EIR. A detailed narrative response to all comments raised by the AGO's June 6 letter is attached to the Staff Report for this matter. Following the subsequent discussions with the AGO staff, the AGO issued a follow up letter on June 20, 2014 indicating its support for the new *Reduced Sulfur Processing/No Increase in Refinery GHG Emissions Alternative* (Section 6.5.11), as well as indicating that the changes made in the Final EIR and further modifications to the process temperature and naphthenic acid corrosion requirements in the final MMRP resolve the AGOs concerns expressed in the June 6 letter. The two AGO letters and the City's responses thereto are included in the administrative record.

In addition to the two AGO letters, the City received a letter dated June 16, 2014 from Randall Sawyer at Contra Costa Health Services (CCHS) expressing his positive feedback on the EIR. Specifically, the letter, also part of the administrative record, recognizes that the EIR imposes numerous process safety requirements that go beyond current regulatory requirements, and that the EIR provides for new oversight mechanisms by the City and County.

CEQA case law emphasizes that “[t]he CEQA reporting process is not designed to freeze the ultimate proposal in the precise mold of the initial project; indeed, new and unforeseen insights may emerge during investigation, evoking revision of the original proposal.” (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 736-737; see also *River Valley Preservation Project v. Metropolitan Transit Development Bd.* (1995) 37 Cal.App.4th 154, 168, fn. 11.) “CEQA compels an interactive process of assessment of environmental impacts and responsive project modification which must be genuine. It must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a consistently described project, with flexibility to respond to unforeseen insights that emerge from the process.

In short, a project must be open for public discussion and subject to agency modification during the CEQA process.” (*Concerned Citizens of Costa Mesa, Inc. v. 33rd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 936 (internal citations omitted).) Here, the changes made to the Draft EIR in the Final EIR are exactly the kind of revisions that the case law recognizes as legitimate and proper.

The City finds that none of the revisions to the Draft EIR made by, or discussion included in, the Final EIR involves “significant new information” triggering recirculation because the changes do not result in any new significant environmental effects, substantial increase in the severity of previously identified significant effects, or feasible project alternatives that would clearly lessen the environmental effects of the project. Similarly, no documentation produced by, or submitted to, the City and relied on by the City after publication of the Final EIR, such as AGO and CCHS letters described above, identifies any new significant effect, substantial increase in the severity of any environmental effect, or feasible project alternatives that would clearly lessen the environmental effects of the project. All project modifications were either environmentally benign or environmentally neutral and all additional documentation relied on by the City merely clarifies or amplifies conclusions in the EIR, and thus represent the kinds of common changes that occur and supplemental information that is received during the environmental review process as it works towards its conclusion. Under such circumstances, the City finds that recirculation of the EIR is not required.

## **Alternatives**

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where significant environmental impacts will not occur.

As is evident from the text of the EIR, all significant effects of the Project have been avoided (that is, rendered less than significant) by the adoption of feasible mitigation measures. There are no impacts that remain as significant and unavoidable.

Under CEQA, project alternatives are developed in order to give agency decisionmakers options for reducing or eliminating the significant environmental effects of proposed projects, while still meeting most if not all of the basic project objectives. “Alternatives and mitigation measures have the same function – diminishing or avoiding adverse environmental effects.” (*Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376, 403.) Here, the adoption of mitigation measures set forth in the Project EIR are sufficient to reduce all significant impacts to less than significant levels. Under CEQA then, the City Council has no obligation even to consider the feasibility of the alternatives set forth in the EIR. (*Laurel Hills Homeowners Association v. City Council of City of Los Angeles* (1978) 83 Cal.App.3d 515, 521 (“*Laurel Hills*”).) Even so, however, the City Council, in the interest of transparency, sets forth below its reasons for concluding that all such alternatives are infeasible within the meaning of CEQA.

The concept of “feasibility” encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 (*City of Del Mar*); *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490, 1506-1509 [court upholds CEQA findings rejecting alternatives in reliance on applicant’s project objectives]; see also *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001 (*CNPS*) [“an alternative ‘may be found infeasible on the ground it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record’”] (quoting *Kostka & Zischke, Practice Under the Cal. Environmental Quality Act* [Cont.Ed.Bar 2d ed. 2009] (*Kostka*), § 17.39, p. 825); *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165, 1166 (*Bay-Delta*) [“[i]n the CALFED program, feasibility is strongly linked to achievement of each of the primary project objectives”; “a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal”].) Moreover, “‘feasibility’ under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.” (*City of Del Mar, supra*, 133 Cal.App.3d at p. 417; see also *CNPS, supra*, 177 Cal.App.4th at p. 1001 [“an alternative that ‘is impractical or undesirable from a policy standpoint’ may be rejected as infeasible”] [quoting *Kostka, supra*, § 17.29, p. 824]; *San Diego Citizenry Group v. County of San Diego* (2013) 219 Cal.App.4th 1, 17.) Finally, as discussed above, CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels.” (*Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 379 (*Rio Vista*.)

Were an alternatives analysis required, CEQA requires evaluations of alternatives that can reduce the significance of identified Project impacts that will not be avoided or substantially lessened by mitigation measures and can "feasibly attain most of the basic objectives of the proposed Project." Thus, overall Project objectives were considered by this City in evaluating the alternatives. These objectives include:

- Modernize, enhance equipment reliability, and enhance the integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer systems and equipment that is consistent with the Richmond Industrial Safety Ordinance.
- Enhance the Facility’s flexibility to process crude oil blends and externally sourced gas oils containing higher levels of sulfur than those currently being processed, enabling Chevron to continue producing transportation fuels and lubricant base oils in compliance with low-sulfur State and federal standards.
- Replace the existing hydrogen production plant with a larger, more modern plant that is more energy-efficient, produces higher purity hydrogen, and has sufficient capacity to meet the Facility’s hydrogen needs and for potential export.
- Ensure that there is no net increase in emissions of greenhouse gases and CAPs compared to the baseline period, through a combination of: replacing some existing equipment with new Modernization Project components that are more energy-efficient and lower-

emitting; installing emissions reduction Project Design Features in the Modernization Project; and implementing specific, feasible mitigation measures as described in this EIR.

- Ensure that there is no net increase in health risks in residential areas associated with TACs from Facility operations as compared to the baseline period, using a combination of project components, Project Design Features, and mitigation measures, consistent with the methodology for assessing non-nominal risks established by the BAAQMD.
- Maintain the Facility's current throughput processing capacity.

The EIR analyzes in detail the Modernization Project as originally proposed, as well eight alternatives to the Modernization Project and three variants of the required "no project" alternative.<sup>4</sup> Two of the eight alternatives analyzed in the EIR were not included in the Draft EIR. They were added in the Final EIR in response to comments requesting analysis of a Project alternative that would not increase physical greenhouse gas emissions over Baseline levels.

As explained in EIR, *Volume 1, Section 4.3, Air Quality*, and *Section 4.8, Greenhouse Gases*, the Project's air quality and greenhouse gas impacts can be mitigated to less-than-significant levels without reducing such emissions to Baseline levels. Moreover, the EIR imposes as mitigation a Project Design Feature (PDF) requiring the Project to further reduce emissions in order to achieve "no net increase" of CAP and greenhouse gas emissions, and health risks from TAC emissions, over Baseline levels. Chevron has not agreed to accept additional air quality or greenhouse gas mitigation in the event an alternative is approved, rather than the Project. Although the City may impose mitigation as necessary to reduce an alternative's air quality and greenhouse gas impacts to a less than significant level, the City's authority to require additional mitigation solely to achieve a no net increase standard is based on the City's exercise of police powers, and its authority to impose mitigation for cumulative health risk impacts in the case of TACs.

The EIR's alternatives analysis does not assume that each alternative will include a no net increase requirement or the Reliability Program, also a PDF. Instead, the EIR examines each alternative under two scenarios, one that assumes a no net increase requirement and Reliability Program and one that does not make these assumptions, in order to fully inform the public and decisionmakers regarding the relative environmental merits of "no net increase" and Reliability Program implementation.

### **"No Project" Alternative - Three Variants**

Per CEQA Guideline Section 15126.6(e), the EIR must evaluate a "no project" alternative in order to compare the impacts of the Project with the impacts likely to occur if the Project is not

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<sup>4</sup> In accordance with CEQA Guidelines Section 15126.6(c), the EIR identifies seven alternatives that were considered, but eliminated from detailed consideration. The alternatives considered but screened from further analysis include: (i) the Alternative Modernization Project Location; (ii) the Sulfur Cap Alternative; (iii) the Wind Energy Alternative; (iv) the Geothermal Power Alternative; (v) the Ocean Energy Alternative; (vi) Solar Photovoltaic Alternative 1; and (vii) the Solar Photovoltaic Alternative 2. A description of each screened alternative and the reasons they were not carried forward for analysis - which reasoning the City hereby adopts - are set forth in EIR, *Volume 1, Section 6.4*.

implemented. During the Baseline period, the Facility gateway units operated at a utilization rate of approximately 89%. However, per the Facility's existing federal Clean Air Act Title V permit, the Facility is authorized to process up to 257,200 barrels per day of crude oil and it is not bound to maintain the Baseline utilization rate under future "no project" conditions. Accordingly, the EIR analyzes three variants of the "no project" alternative, each of which assumes a different Facility utilization rate, as follows:

*No Project: 89% Utilization Alternative*

The "No Project: 89% Utilization" alternative analyzes Refinery Operations under no-Project future conditions (i.e., no changes to the Facility related to the Project occur) assuming 89% of the crude unit capacity is utilized on an annual average daily rate basis. This alternative represents a level of Refinery Operations that is consistent with those occurring during the 2008-2010 Baseline period and therefore most closely approximates future no-Project conditions.

*No Project: 93% Utilization Alternative*

The "No Project: 93% Utilization" alternative analyzes Refinery Operations under no-Project future conditions (i.e., no changes to the Facility related to the Project occur) assuming 93% of the crude unit and gas oil gateway unit capacities are utilized on an annual average daily rate basis. This alternative represents a level of Refinery Operations that is authorized by the Facility's existing Title V permit, though the Facility rarely operates at this utilization level. Since, however, the Facility has occasionally operated at a 93% utilization rate during the Baseline Period, and could theoretically do so again if the Project is not approved, this alternative is evaluated as a potential, though unlikely, "No Project" scenario.

*No Project: 100% Utilization Alternative*

The "No Project: 100% Utilization" alternative analyzes Refinery Operations under no-Project future conditions (i.e., no changes to the Facility related to the Project occur) assuming 100% of the crude unit and gas oil gateway unit permitted capacities are utilized on an annual average daily rate basis. Though it is unlikely that the Facility would operate at a 100% utilization given its existing crude oil and gas oil throughput limits, this operational level is authorized under the Facility's existing Title V permit. Accordingly, the No Project: 100% Utilization alternative is analyzed for purposes of comparing Project impacts against the Facility's legally permitted operational limits.

**Finding Regarding the No Project 89% Utilization Alternative:** Under the No Project: 89% Utilization Alternative, the proposed Project would not be constructed and, therefore, this alternative would avoid the Project's direct, indirect, and cumulative impacts related to: aesthetics; agricultural resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; transportation and traffic; and, utilities and public services (although all such Project impacts would be less than significant after mitigation, as explained in the EIR and as found above). Moreover, this alternative would not implement the various Project components and design features that would improve Facility safety and reliability, nor would it implement the Project's Reliability Program. Thus, this

alternative would not achieve the Project's public safety and reliability benefits. The Project, however, would increase the Facility's flexibility to process higher sulfur feedstocks, which may result in increased corrosion rates that would not occur under this alternative, though the Project's public safety impacts would be mitigated to less than significant levels, as explained in the EIR and as found above.

The No Project: 89% Utilization alternative and the Project would have roughly the same quantity of greenhouse gas emissions because the Modernization Project would ensure that there is no net increase in greenhouse gas emissions by replacing some existing equipment with new Modernization Project components that are more energy-efficient and lower-emitting, and implementing specific, feasible additional Project Design Features and mitigation measures. Furthermore, the No Project: 89% Utilization alternative would emit less quantities for some CAPs (CO and ROG) and greater quantities for some CAPs (PM, NO<sub>x</sub>, and SO<sub>2</sub>) than would the Modernization Project. Again, this is due to a combination of the Project's Facility improvements, Project Design Features, mitigation measures and commitment to no net increase. Since the Project would produce more hydrogen than the No Project: 89% Utilization alternative, and thus requires a greater use of water, this alternative would have a slightly lower impact on water supplies than would the Project.

Although technically feasible, implementation of the No Project: 89% Utilization would not modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies. Moreover, this alternative would not allow the Facility to process higher sulfur crude oil blends and gas oils, and it would not replace the Facility's existing hydrogen plant. This alternative would, however, achieve the Project objective of maintaining the Facility's current throughput processing capacity. Also, since this alternative's emissions are representative of 2008-2010 Baseline conditions, it would satisfy the Project objectives' goal of achieving no net increase of Facility emissions over Baseline levels. Because this alternative would not achieve most of the Project objectives, and would not reduce any significant Project impacts, the City hereby rejects the No Project 89% Utilization Alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding Regarding the No Project 89% Utilization Alternative:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding Regarding the No Project: 89% Utilization Alternative, some of which are set forth here. The 89% Utilization Alternative would not achieve most of the Project objectives, and would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the 89% Utilization Alternative.

**Finding Regarding the No Project 93% Utilization Alternative:** Under the No Project: 93% Utilization Alternative, the proposed Project would not be constructed and, therefore, this alternative would avoid the Project's direct, indirect, and cumulative impacts related to: aesthetics; agricultural resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; transportation and traffic; and,

utilities and public services (although all such Project impacts would be less than significant after mitigation, as explained in the EIR and as found above). Moreover, this alternative would not implement the various Project components and design features that would improve Facility safety and reliability, nor would it implement the Project's Reliability Program. Thus, this alternative would not achieve the Project's public safety and reliability benefits. The Project, however, would increase the Facility's flexibility to process higher sulfur feedstocks, which may result in increased corrosion rates that would not occur under this alternative, though the Project's public safety impacts would be mitigated to less than significant levels, as explained in the EIR and as found above.

The No Project: 93% Utilization alternative would emit a greater quantity of greenhouse gas and CAP emissions compared to the Project. In this respect, this alternative is environmentally inferior to the Modernization Project. This alternative would not implement the Modernization Project's commitment to achieve no net increase of greenhouse gas emissions, CAPs, and health risks associated with TACs. It would not see the decreases in CAPs and certain TACs that are the result of the Project's Facility Improvements. Indeed, this alternative would result in a net increase in greenhouse gas emissions, CAPs and health risks associated with TACs as compared to the 2008-2010 Baseline period because it does not include the Modernization Project's proposed energy-efficient and lower-emitting Facility improvement and would not implement the Project Design Features. Since this alternative assumes that the Facility would be operated at a higher utilization rate over baseline conditions, and since it would not implement the Project's proposed Project Design Features that would reduce the Facility's overall water consumption, this alternative would have a slightly greater impact on water supplies than would the Project. This alternative would also generate slightly greater amounts of wastewater discharge than would the Modernization Project and would thus have a slightly greater impact on the Facility's wastewater treatment capacity than would the Project.

Implementation of the No Project: 93% Utilization alternative would not achieve five of the six Project objectives described above. Under this alternative, operation of the Facility would cause greenhouse gas and CAP emissions that exceed Baseline levels. It would also likely result in a net increase in health risks associated with TACs. Moreover, this alternative would not improve Facility reliability and safety by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies, nor would it enhance the Facility's ability to process higher sulfur crude oil blends and gas oils. Finally, this alternative would not replace the Facility's existing hydrogen plant. This alternative would, however, achieve the Project objective of maintaining the Facility's current throughput processing capacity. Because this alternative would not achieve most of the Project objectives, and would not reduce any significant Project impacts, the City hereby rejects the No Project 93% Utilization Alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding Regarding the No Project 93% Utilization Alternative:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding Regarding the No Project: 93% Utilization Alternative, some of which are set forth here. The 93% Utilization Alternative would not achieve most of the Project objectives, and would not reduce any

significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the 93% Utilization Alternative.

**Finding Regarding the No Project 100% Utilization Alternative:** Under the No Project: 100% Utilization Alternative, the proposed Project would not be constructed and, therefore, this alternative would avoid the Project's direct, indirect, and cumulative impacts related to: aesthetics; agricultural resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; transportation and traffic; and, utilities and public services (although all such Project impacts would be less than significant after mitigation, as explained in the EIR and as found above). Moreover, this alternative would not implement the various Project components and design features that would improve Facility safety and reliability, nor would it implement the Project's Reliability Program. Thus, this alternative would not achieve the Project's public safety and reliability benefits. The Project, however, would increase the Facility's flexibility to process higher sulfur feedstocks, which may result in increased corrosion rates that would not occur under this alternative, though the Project's public safety impacts would be mitigated to less than significant levels, as explained in the EIR and as found above.

Implementation of the No Project: 100% Utilization alternative would generate greenhouse gas and CAP emissions in quantities that far surpass the mitigated Modernization Project and, in this respect, is environmentally inferior to the Project. This alternative would not implement the Modernization Project's commitment to achieve no net increase of greenhouse gas emissions, CAPs, and health risks associated with TACs. Indeed, this alternative would result in a net increase in greenhouse gas emissions, CAPs and health risks associated with TACs as compared to the 2008-2010 Baseline period because it does not include the Modernization Project's proposed energy-efficient and lower-emitting Facility improvement and would not implement the Project Design Features and mitigation measures designed to reduce Facility Emissions. Since this alternative assumes that the Facility would be operated at a higher utilization rate over baseline conditions, and since it would not implement the Project's proposed Project Design Features that would reduce the Facility's overall water consumption, this alternative would have a greater impact on water supplies than would the Project. This alternative would also generate greater amounts of wastewater discharge than would the Modernization Project and would thus have a greater impact on the Facility's wastewater treatment capacity than would the Project.

Implementation of the No Project: 100% Utilization alternative would not achieve five of the six Project objectives described above. Under this alternative, operation of the Facility would cause greenhouse gas and CAP emissions that exceed 2008-2010 Baseline levels. This alternative would also likely result in a net increase in health risks associated with TACs. Moreover, this alternative would not modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies. This alternative would also fail to achieve the Project objective of enhancing the Facility's ability to process higher sulfur crude oil blends and gas oils. Finally, this alternative would not replace the Facility's existing hydrogen plant. This alternative would, however, achieve the Project objective of maintaining the Facility's current throughput processing capacity. Because this alternative would not achieve most of the Project objectives, and would not reduce any significant Project impacts, the City hereby rejects the No Project 100%

Utilization Alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding Regarding the No Project 100% Utilization Alternative:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding Regarding the No Project: 100% Utilization Alternative, some of which are set forth here. The 100% Utilization Alternative would not achieve most of the Project objectives, and would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the 100% Utilization Alternative.

### **Reduced Sulfur Processing Alternative**

**Finding:** The Reduced Sulfur Processing alternative assumes that Modernization Project would be implemented as proposed, except that the sulfur recovery unit's sulfur removal capacity would only be increased to 750 long tons per day, whereas the Project proposes to increase such capacity to 900 long tons per day. Thus, under this alternative, Chevron would implement all of the Modernization Project's proposed Facility modifications, but the sulfur recovery unit's utilization rate would be limited to approximately 83.3% of the capacity proposed by the Modernization Project. Moreover, as with the Project, this alternative assumes that the Facility would be operated consistent with the 93% Utilization Scenario, processing the project crude blend, with the Hydrogen Plant Replacement operating at 100% of capacity.

Since this alternative assumes construction of all Modernization Project components, as compared to the Project, the Reduced Sulfur Processing alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; and, utilities and public services. As with the Modernization Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level.

This alternative would also have construction-related transportation impacts similar to the Modernization Project, but such impact would be mitigated to a less-than-significant level for both the Project and this alternative. This alternative would have reduced operational transportation impacts than the Modernization Project, but these impacts are less than significant for the Project and this alternative.

Unlike this alternative, the Project proposes, as a Project Design Feature, the Modernization Reliability Program designed to further enhance safety and reliability of Facility equipment and Refinery Operations. This alternative does not assume implementation of this Project Design Feature and, therefore, would not achieve the same reliability and public safety benefits that would occur if the Project were approved. But if the Reliability Program were implemented, then the public safety risk of this alternative would generally be equivalent to Modernization Project

public safety risks. However, because this alternative would bring less sulfur from crude oil into the Facility, its risk of corrosion would be slightly reduced compared to the Project.

Under those 93% Utilization conditions, this alternative's unmitigated CAP, TAC and greenhouse gas emissions are the same as the Modernization Project's unmitigated emissions. Without mitigation, the Reduced Sulfur Processing alternative and the Project would generate greenhouse gas emissions, VOC emissions, and NO<sub>x</sub> emissions that exceed applicable thresholds of significance. Under the 100% Utilization conditions, this alternative's unmitigated CAP, TAC and greenhouse gas emissions are less than the Project's unmitigated emissions, and both would exceed BAAQMD significance thresholds. Were this alternative implemented, however, its significant air quality and greenhouse gas impacts under both the 93% and 100% Utilization Scenarios would be mitigated to less than significant levels in the same manner as the Project.

This alternative would achieve most of the Project objectives. This alternative would, modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies and it would replace the Facility's existing hydrogen plant. This alternative would also facilitate the Facility's flexibility to process higher sulfur crude oil blends and gas oils, though not to the same extent as the proposed Modernization Project. Moreover, this alternative would achieve the Project objective of maintaining the Facility's current throughput processing capacity. However, without implementation of the "no net increase" PDF, the Reduced Sulfur Processing alternative would not ensure that there is no net increase in emissions of greenhouse gases and CAPs compared to the 2008-2010 Baseline period and would fail this Project Objective. For the same reason, this alternative would not achieve the Project Objective of assuring no net increase of health risks related to TAC emissions. However, if the no net increase commitment were implemented, then the CAP and GHG emissions, and risks from TAC emissions, from this alternative would also be at or below Baseline and these Project Objective's would be achieved.

Although this alternative could achieve most of the Project objectives, it would not reduce any significant adverse impacts of the Project. Since this alternative would not reduce any of the Project's significant adverse impacts, the City hereby rejects the Reduced Sulfur Processing alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the Reduced Sulfur Processing alternative, some of which are set forth here. The Reduced Sulfur Processing alternative would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the Reduced Sulfur Processing Alternative.

### **Hydrogen Cap Alternative**

**Finding:** The Hydrogen Cap alternative assumes that the Hydrogen Plant Replacement would be built but only permitted to produce 197 million metric square cubic feet of hydrogen per day (MMSCFD), exclusive of the Facility's hydrogen recovery capability. This Hydrogen Cap

alternative further assumes that the Modernization Project would be implemented as proposed and that the Facility would be operated consistent with the 93% Utilization Scenario, processing the project crude blend.

Since this alternative assumes construction of all Modernization Project components, as compared to the Project, the Hydrogen Cap alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural and forestry resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; transportation and traffic; and, utilities and public services. As with the Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level.

Unlike this alternative, the Project proposes, as a Project Design Feature, the Modernization Reliability Program designed to further enhance safety and reliability of Facility equipment and Refinery Operations. This alternative does not assume implementation of this Project Design Feature and, therefore, would not achieve the same reliability and public safety benefits that would occur if the Project were approved. But if the Reliability Program were implemented, then the public safety risk of this alternative would generally be equivalent to Modernization Project public safety risks.

It requires water to produce hydrogen. Under this alternative, the Hydrogen Replacement Plant would produce less hydrogen compared to the Project and would therefore require less water than the Project. This alternative would also generate less wastewater than the Project and thus would have a reduced impact on the Facility's wastewater treatment capacity.

Without mitigation, the Hydrogen Cap alternative would generate fewer overall unmitigated emissions than would the Project, and both would generate greenhouse gas emissions and VOC emissions that exceed applicable thresholds of significance. Were this alternative implemented, however, its significant emission impacts would be mitigated to less than significant levels in the same manner as the Project.

This alternative would achieve most of the Project objectives. The Hydrogen Cap alternative would, modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies and it would replace the Facility's existing hydrogen plant. This alternative would also enhance the Facility's flexibility to processes higher sulfur crude oil blends and gas oils, but at a reduced capacity when compared to the Modernization Project. Moreover, this alternative would achieve the Project objective of maintaining the Facility's current throughput processing capacity. However, without implementation of the "no net increase" PDF, the Hydrogen Cap alternative would not ensure that there is no net increase in emissions of greenhouse gases and CAPs compared to the 2008-2010 Baseline period and would fail this Project Objective. For the same reason, this alternative would not achieve the Project Objective of assuring no net increase of health risks related to TAC emissions. However, if the no net increase commitment were implemented, then the CAP and GHG emissions, and risks from TAC emissions, from this alternative would also be at or below Baseline and these Project Objective's would be achieved.

Although this alternative could achieve most of the Project objectives, it would not reduce any significant adverse impacts of the Project. Since this alternative would not reduce any of the Project's significant adverse impacts, the City hereby rejects the Hydrogen Cap alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the Hydrogen Cap alternative, some of which are set forth here. The Hydrogen Cap alternative would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the Reduced Sulfur Processing Alternative.

### **Renewable Energy Alternative**

**Finding:** The Renewable Energy alternative assumes that the Modernization Project would be implemented as proposed, but it would also include construction of an 8-MW ground-mounted solar PV facility on approximately 40 acres of Chevron-owned property adjacent to the Project site and generally encompassing a commonly known as Landfill 15 (the 8-MW solar facility). The 8-MW solar facility would be comprised of approximately 31,200 PV solar panels, each rated at 295 watts.<sup>5</sup> For purposes of this Renewable Energy alternative, it is assumed that the energy produced by the 8-MW solar facility would be used at the Facility or put back into the electrical grid.

Because it assumes implementation of the Project with the addition of an 8-MW solar facility, the Renewable Energy alternative would not reduce or avoid any of the Project's direct, indirect or cumulative impacts related to: aesthetics, visual quality, light, and glare; agricultural resources; air quality; biological resources; cultural resources; energy; geology, soils, seismicity, and mineral resources; greenhouse gases; hydrology and water quality; land use, plans and policies; noise; employment, population, and housing; public safety; public services; parks and recreation; transportation; or utilities and services. Moreover, as compared to the Project, the Renewable Energy Alternative's large-scale solar facility would have greater aesthetic impacts, light and glare impacts, biological impacts, cultural resource impacts, construction-related energy impacts, geological impacts, construction-related greenhouse gas impacts, hydrology and water quality impacts, noise impacts, construction-related traffic impacts, and utility and service impacts. However, these additional impacts could be mitigated to a less than significant level.

Unlike this alternative, the Project proposes, as a Project Design Feature, the Modernization Reliability Program designed to further enhance safety and reliability of Facility equipment and Refinery Operations. This alternative does not assume implementation of this Project Design Feature and, therefore, would not achieve the same reliability and public safety benefits that

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<sup>5</sup> The 8-MW solar facility is distinct from, but would be constructed adjacent to, the 2-MW solar facility included in the list of potential Community Greenhouse Gas Reduction Programs described in *Section 4.8, Greenhouse Gases*. If the 2-MW solar facility is implemented, it would be constructed in addition to the 8-MW solar facility assumed by this Renewable Energy Alternative.

would occur if the Project were approved. But if the Reliability Program were implemented, then the public safety risk of this alternative would generally be equivalent to Modernization Project public safety risks.

This alternative would result in some environmental benefits. It would reuse a capped landfill for solar energy production and would not create air emissions while in operation. In addition, this alternative would result in generation of electrical energy from a renewable resource, resulting in less energy overall being used to generate electricity by the Facility's utility provider. Moreover, during operation, this alternative's solar facility would not create greenhouse gas emissions during operation and it could offset Facility greenhouse gas emission by approximately 2,548 MT CO<sub>2</sub>e/yr. This alternative would also provide a short-term increase in construction jobs, as compared to the Project.

This alternative would achieve most of the Project objectives. The Renewable Energy alternative would, modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies and it would replace the Facility's existing hydrogen plant. This alternative would also enhance the Facility's flexibility to processes higher sulfur crude oil blends and gas oils, but at a reduced capacity when compared to the Modernization Project. Moreover, this alternative would achieve the Project objective of maintaining the Facility's current throughput processing capacity. However, without implementation of the "no net increase" PDF, the Renewable Energy alternative would not ensure that there is no net increase in emissions of greenhouse gases and CAPs compared to the 2008-2010 Baseline period and would fail this Project Objective. For the same reason, this alternative would not achieve the Project Objective of assuring no net increase of health risks related to TAC emissions. However, if the no net increase commitment were implemented, then the CAP and GHG emissions, and risks from TAC emissions, from this alternative would also be at or below Baseline and these Project Objective's would be achieved.

Although this alternative could achieve most of the Project objectives, it would not reduce any significant adverse impacts of the Project. Since this alternative would not reduce any of the Project's significant adverse impacts, the City hereby rejects the Renewable Energy alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the Renewable Energy alternative, some of which are set forth here. The Renewable Energy alternative would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the Renewable Energy alternative.

### **API Gravity 35.3 Cap Alternative**

**Finding:** The API Gravity 35.3 Cap alternative assumes that the Modernization Project would be implemented as proposed, except that the Facility would be required to limit its crude oil feedstock to crude oil that does not exceed an API gravity of 35.3 degrees, a number that

corresponds to the API gravity of the crude oil component of the lightest crude blend. The alternative further assumes that the Facility would be operated consistent with the reasonably foreseeable 93% Utilization Scenario, and with the Hydrogen Plant Replacement operating at 100% of capacity.

Since this alternative assumes construction of all Modernization Project components, as compared to the Project, the API Gravity 35.3 Cap alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural and forestry resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; construction transportation; and, utilities and public services. As with the Modernization Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level.

This alternative would have construction-related transportation impacts similar to the Modernization Project, but would have reduced operational transportation impacts compared to the Modernization Project with respect to truck trips. Any transportation impacts associated with this alternative would be mitigated to less than significant levels in the same manner as the Project.

This alternative does not assume implementation of the Project's Reliability Program and, therefore, it would not achieve the same reliability and public safety benefits as the Project. If the Reliability Program were implemented, however, then the public safety risk of this alternative would generally be the same as the Projects.

Without mitigation, the API Gravity 35.3 Cap alternative would generate greater overall unmitigated emissions than would the Project, and both would generate greenhouse gas emissions, NO<sub>x</sub>, and VOC emissions that exceed applicable thresholds of significance. Were this alternative implemented, however, its significant emission impacts would be mitigated to less than significant levels in the same manner as the Project.

The API Gravity 35.3 Cap alternative could achieve some Project objectives, but it would not achieve the Project's most basic purpose. This alternative would, modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies and it would replace the Facility's existing hydrogen plant.

Without implementation of the "no net increase" PDF, the API Gravity 35.3 Cap alternative would not ensure that there is no net increase in emissions of greenhouse gases and CAPs compared to the Baseline period and would fail this Project objective. For the same reason, this alternative would not achieve the Project objective of assuring no net increase of health risks related to TAC emissions. However, if the no net increase commitment were implemented, then the CAP and GHG emissions, and risks from TAC emissions, from this alternative would also be at or below Baseline and these Project Objective's would be achieved.

The API 35.3 Cap alternative would not the Modernization Project's fundamental objective of improving the Facility's flexibility to processes feedstocks with higher sulfur content than Baseline conditions. Moreover, this alternative would not reduce any significant adverse impacts of the Project. Since this alternative would not reduce any of the Project's significant adverse impacts, and would not achieve the fundamental Project objective, the City hereby rejects the API Gravity 35.3 Cap alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.) Similarly, CEQA does not require the lead agency to consider the feasibility of an alternative "that cannot achieve the project's underlying fundamental purpose." (*Bay-Delta* at 1165.)

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the API Gravity 35.3 Cap alternative, some of which are set forth here. The API Gravity 35.3 Cap alternative would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Moreover, this alternative would not achieve the Project's fundamental objective of improving the Facility's flexibility to process higher sulfur feedstocks. Therefore, the City hereby rejects the Renewable Energy alternative.

### **API Gravity 29.2 Cap Alternative**

**Finding:** The API Gravity 29.2 Cap alternative assumes that the Modernization Project would be implemented as proposed, except that the Facility would be required to limit its crude oil feedstock to crude oil that does not exceed an API gravity of 29.2 degrees, a number that corresponds to the API gravity of the crude oil component of the heaviest crude blend. The alternative further assumes that the Facility would be operated consistent with the reasonably foreseeable 93% Utilization Scenario, and with the Hydrogen Plant Replacement operating at 100% of capacity.

Since this alternative assumes construction of all Modernization Project components, as compared to the Project, the API Gravity 29.2 Cap alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural and forestry resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; and, utilities and public services. As with the Modernization Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level.

This alternative would have construction-related transportation impacts similar to the Modernization Project, but would have greater operational transportation impacts compared to the Modernization Project with respect to truck trips. Moreover, this alternative does not assume implementation of the Project's Reliability Program and, therefore, it would not achieve the same reliability and public safety benefits as the Project. If the Reliability Program were implemented, however, then the public safety risk of this alternative would generally be the same as the Projects.

Without mitigation, the API Gravity 29.2 Cap alternative would generate similar overall unmitigated emissions compared to the Project, and both would generate greenhouse gas emissions and VOC emissions that exceed applicable thresholds of significance. Were this alternative implemented, however, its significant emission impacts would be mitigated to less than significant levels in the same manner as the Project.

Without implementation of the "no net increase" PDF, the API Gravity 29.2 Cap alternative would not achieve most of the Project Objectives described above. This alternative would, modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies and it would replace the Facility's existing hydrogen plant. This alternative would also enhance the Facility's flexibility to process crude oil blends and gas oils with higher sulfur contents compared to Baseline. However, this alternative would not achieve the Project objective of maintaining the Facility's current throughput processing capacity because it would restrict the Facility's existing capacity to process crude blends with API gravity greater than 29.2. Moreover, without implementation of the "no net increase" PDF the API Gravity 29.2 Cap alternative would not ensure no net increase in emissions of greenhouse gases and CAPs compared to the Baseline period and would fail this Project objective. For the same reason, this alternative would not achieve no net increase of health risks related to TAC emissions. However, if the no net increase commitment were implemented, then the CAP and GHG emissions, and risks from TAC emissions, from this alternative would also be at or below Baseline and these Project Objectives would be achieved.

The API Gravity 29.2 Cap also would not reduce any significant adverse impacts of the Project. Since this alternative would not reduce any of the Project's significant adverse impacts, the City hereby rejects the Renewable Energy alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.)

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the API Gravity 29.2 Cap alternative, some of which are set forth here. The API Gravity 29.2 Cap alternative would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Therefore, the City hereby rejects the API Gravity 29.2 alternative.

### **Carbon Intensity Cap Alternative**

**Finding:** The Carbon Intensity Cap alternative assumes that the applicant would be required to limit Refinery Operations such that the Facility would not process feedstocks that exceed the "carbon intensity" of the feedstock processed at the Facility during the 2008-2010 Baseline period. Accordingly, this alternative assumes that all of the Modernization Project's proposed Facility modifications would be implemented and that the Facility would be operated consistent with the 93% Utilization Scenario, with the Hydrogen Plant Replacement operating at 100% of capacity. Under this alternative, however, the Facility would be restricted to processing the

Baseline crude blend, a crude blend that represents the average carbon intensity of the feedstock processed at the Facility during the 2008-2010 Baseline period.

Because this alternative assumes construction of all Modernization Project components, as compared to the Project, the Carbon Intensity Cap alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural and forestry resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; and, utilities and public services. As with the Modernization Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level. This alternative would also have construction-related transportation impacts similar to the Project, but such impacts would be mitigated to a less-than-significant level for both the Modernization Project and this alternative.

This alternative would have construction-related transportation impacts similar to the Modernization Project, but would have reduced operational transportation impacts compared to the Modernization Project with respect to truck trips. Moreover, this alternative does not assume implementation of the Project's Reliability Program and, therefore, it would not achieve the same reliability and public safety benefits as the Project. If the Reliability Program were implemented, however, then the public safety risk of this alternative would generally be the same as the Projects.

Without mitigation, the Carbon Intensity Cap alternative would generate fewer overall unmitigated emissions than would the Project, and both would generate greenhouse gas emissions, NO<sub>x</sub>, and VOC emissions that exceed applicable thresholds of significance. Were this alternative implemented, however, its significant emission impacts would be mitigated to less than significant levels in the same manner as the Project.

The Carbon Intensity Cap alternative could achieve some Project objectives, but it would not achieve the Project's most basic purpose. This alternative would, modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies and it would replace the Facility's existing hydrogen plant. Moreover, this alternative would achieve the Project objective of maintaining the Facility's current throughput processing capacity.

Without implementation of the "no net increase" PDF, the Carbon Intensity Cap alternative would not ensure no net increase in emissions of greenhouse gases and CAPs compared to the Baseline period and would fail this Project objective. For the same reason, this alternative would not achieve the Project objective of assuring no net increase of health risks related to TAC emissions. However, if the no net increase commitment were implemented, then the CAP and GHG emissions, and risks from TAC emissions, from this alternative would also be at or below Baseline and these Project Objective's would be achieved.

Because this alternative would restrict the Facility to processing the same crude blend processed during the Baseline period, it would substantially frustrate the Project's fundamental underlying purpose of improving the Facility's flexibility to processes crude oil blends and gas oils with higher sulfur content than Baseline conditions. Moreover, this alternative would not reduce any

significant adverse effects of the Project. Since this alternative would not reduce any of the Project's significant adverse impacts, and would not achieve the fundamental Project objective, the City hereby rejects the Carbon Intensity Cap alternative. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista* at 379.) Similarly, CEQA does not require the lead agency to consider the feasibility of an alternative "that cannot achieve the project's underlying fundamental purpose." (*Bay-Delta* at 1165.)

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the Carbon Intensity Cap alternative, some of which are set forth here. The Carbon Intensity Cap alternative would not reduce any significant Project impacts because all such impacts have been mitigated to a less than significant level. Moreover, this alternative would not achieve the Project's fundamental objective of improving the Facility's flexibility to process higher sulfur feedstocks. Therefore, the City hereby rejects the Carbon Intensity Cap alternative.

### **Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions Alternative**

**Finding:** The Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions alternative combines the Reduced Sulfur Processing Alternative with a modified form of a Hydrogen Cap Alternative which focuses on total Refinery greenhouse gas emissions (inclusive of Refinery-related transportation greenhouse gas emissions), instead of the Hydrogen Plant's production. This alternative was added to the EIR in response to comments on the Draft EIR requesting an alternative that would limit gross Facility greenhouse gas emissions to Baseline levels.

Under this alternative, the Facility:

- Would limit sulfur removal to 750 long tons per day, which is 150 long tons higher than what is currently permitted, but only half of the 300 long tons capacity increase requested by Chevron and included in the Modernization Project.
- Would limit greenhouse gas emissions from Refinery operations (including Refinery-related transportation greenhouse gas emissions) to Baseline levels of 4,602,947 metric tons (MT) per year, and thus allow no physical increase in greenhouse gas emissions from the Refinery over Baseline. Because the vast majority of greenhouse gas emission increases associated with the Modernization Project are from the increased production capacity of the Replacement Hydrogen Plant and increased utilization of the Facility, this Alternative would, under the operational scenarios considered in the Unit Rate Model included as *Appendix AQ-URM* in EIR *Volume 1* and discussed further below, result in a Facility utilization (i.e., both crude unit and gas oil gateway unit) level for the Project Crude blend of approximately 84.7%.
- The Modernization Project assumed that the Hydrogen Plant Replacement would operate at 100% utilization levels to accommodate a combination of Facility needs and the

potential future export of hydrogen through a separate pipeline and related Hydrogen Export project proposed by Praxair. The Hydrogen Cap Alternative evaluated in the Draft EIR assumed that the Hydrogen Plant Replacement would be capped at a reduced level of 197 MMSCFD, producing an unmitigated total of 4,949,268 MT of CO<sub>2</sub>e/year (greenhouse gas) relative to the unmitigated total of 5,328,526 MT of greenhouse gas for the Project under the 93% Utilization, Max Hydrogen production scenario. (Under No Net Increase, greenhouse gas emissions would be mitigated to Baseline levels for the Modernization Project and the Hydrogen Cap Alternative). Under this new Alternative, greenhouse gas emissions would be capped for the Refinery at the Baseline level of 4,602,947 MT of greenhouse gas. Actual Hydrogen Plant Replacement production levels would vary based on operational conditions; for example, because other parts of the Facility, such as the Rheniformers, also produce hydrogen that is used to remove sulfur, actual Hydrogen Plant operations could increase to offset a reduction in hydrogen production if, for example, a Rheniformer was out of operation (e.g., for a maintenance turnaround). Capping Refinery greenhouse gas emissions rather than Hydrogen Plant Replacement operational levels is responsive to comments objecting to physical increase in greenhouse gas emissions from Refinery operations, notwithstanding the no net increase project objective and mitigation measures requiring compliance with no net increase through a mitigation program that includes a combination of internal Facility greenhouse gas reductions, community-based greenhouse gas emission reductions, and AB 32 Cap and Trade allowances, greenhouse gas offset credits, and curtailment, as discussed in *Section 4.8, Greenhouse Gases*, of the Draft EIR and Master Response 1: Greenhouse Gases of this Final EIR.

- Under this Alternative, the separate, potential future Hydrogen Export project would still be required to mitigate to no net increase for any greenhouse gas emissions attributable to hydrogen export; however, a physical increase in greenhouse gas over Baseline would occur and would be reduced to no net increase through mitigation measures that include AB 32 Compliant Cap and Trade compliance instruments, and CAPCOA-approved greenhouse gas credits. For example, if the Chevron Refinery used 80% of the production from the Hydrogen Plant Replacement, the physical greenhouse gas emissions associated with that 80% production level of Hydrogen Plant Replacement—along with all other Refinery greenhouse gas emissions—could not exceed the Refinery's physical greenhouse gas Baseline emission levels, and could not "net out" through the use of AB 32 Cap and Trade Allowances or CAPCOA greenhouse gas exchange credits. If the remaining 20% of the production from Hydrogen Plant Replacement is exported as part of a potential future hydrogen pipeline project, then the greenhouse gas emissions attributable to that future Export Project may result in physical greenhouse gas emissions over Baseline, which must then be separately mitigated to less than significant levels under CEQA (and to no net increase under this EIR) through the use of authorized mitigation measures that would include AB 32 Cap and Trade compliance instruments, and greenhouse gas offset credits.

Since this alternative assumes construction of all Modernization Project components, as compared to the Project, this alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural resources; biological

resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; and, utilities and public services. As with the Modernization Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level. This alternative would also have construction-related transportation impacts similar to the Modernization Project, but such impacts would be mitigated to a less-than-significant level for both the Project and this alternative.

Unlike this alternative, the Project proposes, as a Project Design Feature, the Modernization Reliability Program designed to further enhance safety and reliability of Facility equipment and Refinery Operations. This alternative does not assume implementation of this Project Design Feature and, therefore, would not achieve the same reliability and public safety benefits that would occur if the Project were approved. But if the Reliability Program were implemented, then the public safety risk of this alternative would generally be equivalent to Modernization Project public safety risks. However, because this alternative would bring less sulfur from crude and purchased gas oils into the Facility, its risk of corrosion would be slightly reduced compared to the Project. This Alternative's limitation on greenhouse gas emissions to Baseline levels has no effect on Public Safety and would thus be similar to the Modernization Project.

This alternative would have reduced operational transportation impacts than the Modernization Project. This alternative would produce a lower quantity of elemental sulfur compared to the Modernization Project and, therefore, it would require fewer truck trips to transport elemental sulfur off site following its production. Although this alternative would have reduced operational transportation impacts compared to the Modernization Project, these impacts are less than significant for both the Project and this alternative. This Alternative's limitation on greenhouse gas emissions to Baseline levels would, under reasonably foreseeable circumstances, result in lower Facility utilization levels, with corresponding decreases in shipping and other transportation activity levels.

As shown in EIR, *Volume 1, Chapter 6, Table 6-22*, without mitigation, the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions Alternative would have substantially lower unmitigated greenhouse gas emissions than the Project, would result in decreases in emissions for all CAPs compared to Baseline with the exception of a one (1) ton increase in CO, and would not exceed any BAAQMD CEQA threshold in any event. Further emission reductions would occur if approval of this alternative were predicated on implementation of the emissions-reducing Project Design Features. If the no net increase commitment were implemented, then this alternative would reduce NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, and VOC emissions below Baseline levels, and would reduce CO emissions to Baseline levels, and emissions would be lower than the Project, as shown in Table 6-23.

**TABLE 6-22 UNMITIGATED REDUCED SULFUR PROCESSING/NO INCREASED GREENHOUSE GAS REFINERY EMISSIONS ALTERNATIVE EMISSIONS COMPARED TO UNMITIGATED PROJECT (93% UTILIZATION) EMISSIONS**

Emissions Category	Emissions (Tons/Year)					Greenhouse Gases (Tonnes)
	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	

								CO <sub>2</sub> e/Year)
<b>Baseline</b>	525	1,303	503	502	373	973	4,602,947	
<b>Reduced Sulfur Processing/ No Increased Greenhouse Gas Refinery Emissions Alternative (84.7% Utilization) Unmitigated Emissions</b>	526	1,172	456	454	340	959	4,599,848	
<b>Project (93% Utilization) Unmitigated Emissions</b>	575	1,320	501	500	358	1,002	5,328,526	

Notes: CO = carbon monoxide; PM<sub>10</sub> = respirable particulates; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound.

**TABLE 6-23 REDUCED SULFUR PROCESSING ALTERNATIVE/NO INCREASED GREENHOUSE GAS REFINERY EMISSIONS ALTERNATIVE EMISSIONS (MITIGATED TO NNI) COMPARED TO PROJECT EMISSIONS (MITIGATED TO NNI)**

Emissions Category	Emissions (Tons/Year)						Greenhouse Gases (Tonnes CO <sub>2</sub> e/Year)
	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	VOC	
<b>Baseline</b>	525	1,303	503	502	373	973	4,602,947
<b>Reduced Sulfur Processing/No Increased Greenhouse Gas Refinery Emissions Alternative (84.7% Utilization) Emissions (Mitigated to NNI)</b>	525	1,172	456	454	340	959	4,599,848
<b>Project Emissions (Mitigated to NNI)</b>	525	1,269	501	499	359	973	4,602,947

Notes: CO = carbon monoxide; PM<sub>10</sub> = respirable particulates; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound; NNI = no net increase.

Unlike the Modernization Project, this alternative would not allow the Facility to operate at 100% capacity due to the new greenhouse gas emission constraint precluding Refinery greenhouse gas emissions to exceed Baseline levels, without regard to imposition of off-site mitigation measures including AB 32 Cap and Trade compliance instruments, and CAPCOA greenhouse gas Rx or similar greenhouse gas reduction credits.

This alternative would continue to allow for the potential future export of hydrogen if Praxair obtains permits for and builds its export pipeline. This alternative would thus also include the potential that the Replacement Hydrogen Plant would operate up to its maximum 100% permitted capacity, and require mitigation (inclusive of AB 32 Cap and Trade Allowances and Credits, and the CAPCOA greenhouse gas exchange credits) to have less than significant greenhouse gas emissions and achieve no net increase consistent with the project objectives.

With the Project crude blend, the URM calculated that under normal operating conditions approximately 70 MMSCF/day would be available for potential export. EIR, *Volume 1, Chapter 6, Table 6-24* identifies the unmitigated emissions associated with this additional hydrogen production. These emissions would be mitigated per the no net increase project objective, but

would result in physical emissions over Baseline. Because this alternative results in a lower level of Facility utilization relative to the Project, and thus lower levels of refinery activity and transportation, even with the Hydrogen Plant Replacement operating at 100% capacity this alternative results in lower CAP, TAC and greenhouse gas emissions relative to the Project.

**TABLE 6-24 ADDITIONAL CAP AND GREENHOUSE GAS EMISSIONS FROM MAXIMUM HYDROGEN PRODUCTION FOR THE REDUCED SULFUR PRODUCTION/NO INCREASE IN REFINERY GREENHOUSE GAS EMISSIONS ALTERNATIVE**

Additional Hydrogen (mmscf/day)	Additional CAP Emissions (tons/year)					Additional Greenhouse Gas Emissions (tonnes CO <sub>2</sub> e/year)
	CO	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>x</sub> <sup>a</sup>	ROG/VOC	
66.9	18	15	6	--	6	555,199

Notes: Hydrogen export would not result in increased SO<sub>x</sub> emissions, as both cases already require fuel gas treatment to limit SO<sub>x</sub> emissions from fuel gas to 49.09 tons/year.

This alternative could achieve some portion of all of the Project Objectives described in Section 6.3, above. This alternative would modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies (even more so if the Project's Reliability Program were implemented) and it would replace the Facility's existing hydrogen plant. This alternative would also facilitate the Facility's flexibility to processes higher sulfur crude oil blends and gas oils, though not to the same extent as the proposed Modernization Project. This alternative would also ensure no net increase in greenhouse gas emissions, CAP emissions, and health risks related to TAC emissions, if the Project's no net increase commitment were implemented. However, this alternative would not achieve the Project objective of maintaining the Facility's current throughput processing capacity since throughput would necessarily decrease in order to achieve no physical increase in greenhouse gas emissions from refinery operations.

Because the Project has been mitigated to a less-than-significant level and this alternative does not avoid or minimize a significant unmitigated Project impact, CEQA does not mandate nor prohibit selection of this alternative instead of the Project. However, because this alternative reduces overall environmental impacts to a greater extent than does the Project, the City finds that this alternative, rather than the Project, should be approved subject to those EIR mitigation measures required to reduce this alternative's environmental effects to a less than significant level.

**Facts in Support of Finding:** EIR, Volume 1, Chapter 6, contains facts and analyses supporting the Finding regarding the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions alternative, some of which are set forth here. Because the Project has been mitigated to a less-than-significant level and this alternative does not avoid or minimize a significant unmitigated Project impact, CEQA does not mandate nor prohibit selection of this alternative instead of the Project. However, because this alternative reduces overall environmental impacts to a greater extent than does the Project, the City finds that this alternative, rather than the

Project, should be approved subject to those EIR mitigation measures required to reduce this alternative's environmental effects to a less than significant level.

### **Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions/No FCC FHT Expansion Alternative**

**Finding:** The second new alternative added to the EIR in response to comments - the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions/No FCC FHT Expansion alternative - is another "smaller project" variant, which includes all features in the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions alternative as well as elimination of the Project's proposed FCC FHT expansion. As explained in the EIR, *Volume 1, Chapter 3, Project Description*, the Modernization Project would increase the throughput capacity of the FCC FHT from 65,000 to 80,000 barrels per day, which would enable the Facility to import and process higher sulfur gas oils in lieu of importing low sulfur gas oils that are fed directly to the Facility's FCC unit. Under this alternative, this FCC FHT modification would not be completed.

This alternative, like the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions Alternative, would reduce Facility utilization levels to below Baseline levels. The URM was used to identify probable utilization levels assuming no physical increase in Refinery greenhouse gas emissions (inclusive of Refinery-related transportation greenhouse gas emissions), and it was determined that, under this alternative, Facility utilization would decrease to approximately 86% (inclusive of all Crude and Gas Oil Gateway units).

Since this alternative assumes construction of almost all Modernization Project components except for the FCC FHT, as compared to the Project, this alternative would have similar direct, indirect, and cumulative construction and operational impacts related to: aesthetics; agricultural resources; biological resources; cultural resources; energy; geology, soils and seismicity; hydrology and water quality; land use, plans and policies; noise; population, employment and housing; parks and recreation; public services; and, utilities and public services. As with the Modernization Project, all such impacts would either be less than significant, or mitigated to a less-than-significant level. This alternative would also have construction-related transportation impacts similar to the Modernization Project, but such impacts would be mitigated to a less-than-significant level for both the Project and this alternative.

Unlike this alternative, the Project proposes, as a Project Design Feature, the Modernization Reliability Program designed to further enhance safety and reliability of Facility equipment and Refinery Operations. The Reliability Program includes replacements of several piping circuits in the crude unit and other safety upgrades, and also requires implementation of recommendations made by the City's independent safety expert to address corrosion risks and other potential damage risks that could occur as a result of the Modernization Project. This alternative does not assume implementation of this Project Design Feature and, therefore, would not achieve the same reliability and public safety benefits that would occur if the Project were approved. But if the Reliability Program were implemented, then the public safety risk of this alternative would generally be equivalent to Modernization Project public safety risks. However, because this alternative would bring less sulfur from crude and purchased gas oils into the Facility, its risk of

corrosion would be slightly reduced compared to the Project. Also, because this alternative would not include an FCC FHT modification that would allow the Facility to import and process higher sulfur gas oils, corrosion risks from increased sulfur in gas oils would also be lower relative to the Project. This alternative's limitation on greenhouse gas emissions to Baseline levels would be similar to the Modernization Project with respect to Public Safety.

This alternative would have reduced operational transportation impacts than the Modernization Project. This alternative would produce a lower quantity of elemental sulfur compared to the Modernization Project and, therefore, it would require fewer truck trips to transport elemental sulfur off site following its production. Although this alternative would have reduced operational transportation impacts compared to the Modernization Project, these impacts are less than significant for both the Project and this alternative. This alternative's limitation on greenhouse gas emissions to Baseline levels would, under reasonably foreseeable circumstances, result in lower Facility utilization levels, with corresponding decreases in shipping and other transportation activity levels.

As explained in *Section 4.3, Air Quality*, the EIR evaluates the Modernization Project air emissions against two Refinery Operation scenarios: the 93% Utilization Scenario and the 100% Utilization Scenario. The 93% Utilization Scenario assumes both that the 239,200 barrels per day of crude oil (93% of the permitted crude unit limit of 257,200 barrels per day) is used by the Facility and that the gas oil gateway units operate at 93% of permitted capacity. The 100% Utilization Scenario assumes both that 257,200 barrels per day of crude oil is used by the Facility, and that the gas oil gate units operate at 100% of permitted capacity.

As explained in *Section 4.3, Air Quality*, the Modernization Project's total emissions and change from Baseline levels for each utilization scenario are, in general, calculated by scaling Baseline emissions with the level of activity associated with associated with Baseline emissions to the level of activity calculated by Unit Rate Model (URM). The Unit Rate Model was used to estimate Facility utilization levels assuming normal operating conditions if greenhouse gas emissions were capped to Baseline levels.

As shown in Table 6-25, without mitigation, the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions/No FCC FHT Expansion Alternative would result emissions below Baseline levels for all CAPS except CO, would have substantially lower unmitigated greenhouse gas emissions than the Project, and would not exceed the BAAQMD CEQA thresholds for any pollutant. Further emissions reductions would occur if approval of this alternative were predicated on implementation of the emissions-reducing Project Design Features. If the no net increase commitment were implemented, then this alternative would result in no increase in Refinery-related greenhouse gas physical emissions over Baseline, and would thus have physical emission levels that are lower than the Project, as shown in Table 6-26.

**TABLE 6-25 UNMITIGATED REDUCED SULFUR PROCESSING/NO INCREASED GREENHOUSE GAS REFINERY EMISSIONS/NO FCC FHT EXPANSION ALTERNATIVE EMISSIONS COMPARED TO UNMITIGATED PROJECT (93% UTILIZATION) EMISSIONS**

Emissions Category	Emissions (Tons/Year)						Greenhouse Gases (Tonnes CO <sub>2</sub> e/Year)
	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	VOC	
Baseline	525	1,303	503	502	373	973	4,602,947
Reduced Sulfur Processing/No Increased Greenhouse Gas Refinery Emissions/No FCC FHT Alternative (86% Utilization) Unmitigated Emissions	529	1,181	461	460	343	964	4,601,592
Project (93% Utilization) Unmitigated Emissions	575	1,320	501	500	358	1,002	5,328,526

Notes: CO = carbon monoxide; PM<sub>10</sub> = respirable particulates; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound.

**TABLE 6-26 REDUCED SULFUR PROCESSING/NO INCREASED GREENHOUSE GAS REFINERY EMISSIONS/NO FCC FHT ALTERNATIVE EMISSIONS (TO BE MITIGATED TO NNI) COMPARED TO PROJECT EMISSIONS (TO BE MITIGATED TO NNI)**

Emissions Category	Emissions (Tons/Year)						Greenhouse Gases (Tonnes CO <sub>2</sub> e/Year)
	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	VOC	
Baseline	525	1,303	503	502	373	973	4,602,947
Reduced Sulfur Processing/No Increased Greenhouse Gas Refinery Emissions/No FCC FHT Alternative (86% Utilization) Emissions (Mitigated to NNI)	525	1,181	461	460	343	964	4,601,592
Project Emissions (Mitigated to NNI)	525	1,269	501	499	359	973	4,602,947

Notes: CO = carbon monoxide; PM<sub>10</sub> = respirable particulates; SO<sub>x</sub> = sulfur oxides; VOC = volatile organic compound; NNI = no net increase.

Unlike the Modernization Project, using the operating parameters used in the URM, this alternative would not allow the Facility to operate at even 93% of its capacity using the Project crude blend due to the new greenhouse gas emission constraint of limiting physical greenhouse gas emissions for Refinery-related activities to Baseline levels. This lower utilization level would result in lower emissions for CAPs and TACs, since these pollutants generally scale up with increased utilization as described further in *Section 4.3, Air Quality*, of the Draft EIR. Lower utilization would also result in less transportation activity, and thus reduced levels of CAPs and TACs relative to the Project. Assuming no net increase was implemented for this alternative, *net* emissions would continue to be equivalent to the Project which must implement the No Net

Increase mitigation requirements for CAPs, and for risks from TACs, as set forth in the Draft EIR.

As with the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions Alternative discussed above, this alternative would continue to allow for full utilization of the Hydrogen Plant Replacement production capacity if the separate potential future hydrogen export project is approved. The air emissions associated with this alternative are noted in Table 6-27, below. Because this alternative results in a lower level of Facility utilization relative to the Project, and thus lower levels of refinery activity and transportation, even with the Hydrogen Plant Replacement operating at 100% capacity this alternative results in lower CAP, TAC and greenhouse gas emissions relative to the Project.

**TABLE 6-27 ADDITIONAL CAP AND GREENHOUSE GAS EMISSIONS FROM MAXIMUM HYDROGEN PRODUCTION FOR THE REDUCED SULFUR PROCESSING/NO INCREASE IN REFINERY GREENHOUSE GAS EMISSIONS/NO FCC FHT EXPANSION ALTERNATIVE**

Additional Hydrogen (mmscf/day)	Additional CAP Emissions (tons/year)					Additional Greenhouse Gas Emissions (tonnes CO <sub>2</sub> e/year)
	CO	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>x</sub> <sup>a</sup>	ROG/VOC	
63.6	17	14	5	--	6	527,219

Notes: Hydrogen export would not result in increased SO<sub>x</sub> emissions, as this case already require fuel gas treatment to limit SO<sub>x</sub> emissions from fuel gas to 49.09 tons/year.

This alternative could achieve some portion of all of the Project Objectives described in Section 6.3, above. This alternative would modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies (even more so if the Project Reliability Program were implemented) and it would replace the Facility’s existing hydrogen plant. This alternative would also facilitate the Facility’s flexibility to processes higher sulfur crude oil blends and gas oils, although the Facility's capacity to accept more higher sulfur gas oils in lieu of low-sulfur gas oils would be reduced in relation to the Project. This alternative would also ensure no net increase in greenhouse gas emissions, CAP emissions, and health risks related to TAC emissions, if the Project's no net increase commitment were implemented. This alternative would not achieve the Project objective of maintaining the Facility’s current throughput processing capacity.

This alternative could achieve some portion of all of the Project Objectives described above. This alternative would modernize and increase equipment reliability and integrity of the Facility by replacing older equipment with newer, cleaner, and inherently safer equipment and technologies (even more so if the Project's Reliability Program were implemented) and it would replace the Facility’s existing hydrogen plant. This alternative would also facilitate the Facility’s flexibility to processes higher sulfur crude oil blends and gas oils, though not to the same extent as the proposed Modernization Project. This alternative would also ensure no net increase in greenhouse gas emissions, CAP emissions, and health risks related to TAC emissions, if the Project's no net increase commitment were implemented. However, this alternative would not achieve the Project objective of maintaining the Facility’s current throughput processing capacity

since throughput would necessarily decrease in order to achieve no physical increase in greenhouse gas emissions from refinery operations.

Because the Project has been mitigated to a less-than-significant level and this alternative does not avoid or minimize a significant unmitigated Project impact, CEQA does not mandate selection of this alternative instead of the Project. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista at 379.*) Because the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions would not reduce any significant adverse impacts of the Project, the City rejects this alternative.

**Facts in Support of Finding:** EIR, *Volume 1, Chapter 6*, contains facts and analyses supporting the Finding regarding the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions/No FCC FHT Expansion alternative, some of which are set forth here. Because the Project has been mitigated to a less-than-significant level and this alternative does not avoid or minimize a significant unmitigated Project impact, CEQA does not mandate selection of this alternative instead of the Project. Therefore, the City hereby rejects the Reduced Sulfur Processing/No Increase in Refinery Greenhouse Gas Emissions/No FCC FHT Expansion alternative.

### **Environmentally Superior Alternative**

The State CEQA Guidelines require the identification of an environmentally superior alternative to the Project. (CEQA Guidelines, Section 15126.6(e)(2).) An environmentally superior alternative is an alternative to the Project that would reduce and/or eliminate the significant adverse environmental impacts associated with the Project without creating other significant adverse environmental impacts and without substantially reducing and/or eliminating the environmental benefits attributable to the Project.

Selection of an environmentally superior alternative is based on an evaluation of the extent to which the alternatives reduce or eliminate the significant impacts associated with the Project and on a comparison of the remaining environmental impacts of each alternative. In conducting this comparative evaluation, it can be difficult to make a determination of relative significance because some categories are relatively more or less important and cannot be summed. In some cases, these categories do not create a picture of the nuances of the alternative. In this case, however, CEQA does not provide an independent legal basis requiring the identification or selection of an "environmentally superior" alternative because the Project would not result in any significant adverse environmental impacts; all such Project impact will be mitigated to a less than significant level. As discussed above, "CEQA does not require the [lead] agency to consider the feasibility of environmentally superior project alternatives identified in the EIR if described mitigation measures will reduce environmental impacts to acceptable levels." (*Rio Vista at 379.*)

**Finding:** The City evaluated the Modernization Project and the Project alternatives described in EIR, *Volume 1, Chapter 6*. The City finds that the Project would not result in any significant and unavoidable adverse environmental impacts. The City finds that all of the Project's potentially

significant adverse environmental effects will be mitigated to a less than significant level for the reasons described above. Because all of the Project's potentially significant adverse environmental effects will be mitigated to a less than significant level, the City's discretionary determination whether or not to adopt or reject a project alternative, including the environmentally superior alternative, is not a CEQA issue. (See, e.g., *City of Marina v. Board of Trustees of California State University* (2006) 39 Cal.4th 341, 350 [“The required [CEQA] findings constitute the principal means chosen by the Legislature to enforce the state’s declared policy ‘that public agencies should not approve projects as proposed if there are feasible alternatives [] available which would substantially lessen the significant environmental effects of such projects ... .’”].) Although none of the Project alternatives would reduce or avoid a significant adverse environmental impact of the Project, some alternatives would further reduce some of the Project's less than significant impacts and, in this respect, would be "environmentally superior" to the Project. Though not required by CEQA, the Project alternative that best further reduces the Project's less than significant environmental impacts is identified below.

Were it static, the No Project: 89% Utilization variant of the “no project” alternative would be the environmentally superior alternative because, compared to the Project, it would have less overall impact than the Project in the areas of biological resources, cultural resources, geology, noise, transportation, and utilities (although, after mitigation, the Project would also not have any significant impacts within these impact categories). However, this variant of the “no project” alternative is not static. It merely represents Refinery Operations during the 2008-2010 baseline period. It may not be representative of future “no project” conditions because the Facility is currently permitted to operate at a utilization rate greater than 89%, hence this chapter’s consideration of multiple “no project” variants. In any case, even if the No Project: 89% Utilization alternative were the environmentally superior alternative, this EIR must also identify an environmentally superior alternative from among the other alternatives (14 Cal. Code Regs. Section 15126.6(e)(2)).

The API Gravity 29.2 Cap alternative is clearly not environmentally superior to the Modernization Project because it would not reduce any Project impacts and, in some cases, would slightly exacerbate Project impacts.

As for the remaining Modernization Project alternatives described in the EIR, none would implement the Project’s commitment to no net increase of greenhouse gas emissions, CAP emissions, and health risks related to TAC emissions. As a result, all of the alternatives evaluated above would result in overall greater emissions than the Modernization Project, except for the Reduced Sulfur Processing/No Increase In Refinery GHG Emissions Alternative and the Reduced Sulfur Processing/No Increase In Refinery GHG Emissions/No FCC FHT Expansion Alternative. Similarly, none of the alternatives would implement the Reliability Program and thus would not achieve the Project's reliability and public safety benefits. In this respect, the Project is environmentally superior to all of the alternatives described in EIR, *Volume 1, Chapter 6*.

All things being equal, however, when compared to the Project, the Reduced Sulfur Processing alternative would have reduced transportation impacts and slightly reduced reliability and public

safety impacts. And, all things being equal, the Hydrogen Cap alternative, would have reduced water supply and wastewater treatment impacts compared to the Project. Since none of alternatives (or the Project) would have a significant impact on water supplies or wastewater treatment capacity, and since Facility reliability and safety is an important goal of the Project, as between the two alternatives, the Reduced Sulfur Processing alternative is, on balance, environmentally superior to the Hydrogen Cap alternative. Thus, if the Reduced Sulfur Processing alternative were approved, and if the no net increase commitment and Reliability Program were implemented, then the Reduced Sulfur Processing alternative would be environmentally superior to the Modernization Project.

All things being equal, the Reduced Sulfur Processing alternative is not, however, environmentally superior to either the Reduced Sulfur/No Increase In Refinery GHG Emissions Alternative or the Reduced Sulfur/No Increase In Refinery GHG Emissions/No FCC FHT Expansion Alternative. The latter two alternatives would both result in lower greenhouse gas, CAP and TAC emissions than would the Reduced Sulfur Processing alternative. And, of the two, the Reduced Sulfur/No Increase in Refinery GHG Emissions Alternative is environmentally superior to the Reduced Sulfur/No Increase in GHG Emissions/No FCC FHT Expansion Alternative. Moreover, the Reduced Sulfur/No Increase in Refinery GHG Emissions Alternative is environmentally superior to the Project because it would result in lower greenhouse gas, CAP and TAC emissions. Therefore, although not required by CEQA, the City finds that the Reduced Sulfur Processing/No Increase in GHG Emissions Alternative is the environmentally superior Project alternative.

## Exhibit B

# CHEVRON MODERNIZATION PROJECT MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

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A Mitigation Measure Monitoring and Reporting Program (MMRP) is a required step in the CEQA compliance process. The purpose of an MMRP is to ensure the implementation of mitigation measures and project approval conditions that avoid or reduce project impacts that could otherwise be significant adverse environmental impacts. Final mitigation measures as well as project approval conditions that avoid or reduce significant adverse impacts are included in this MMRP. The Chevron Modernization Project Environmental Impact Report (SCH # 2011062042 ) ("EIR") also includes improvement measures to further minimize less-than-significant Project impacts; improvement measures are also included in this MMRP. The EIR consists of a Draft Environmental Impact Report, Volumes 1 and 2A/2B ("Draft EIR") and a Final Environmental Impact Report (Responses to Comments and text revisions), Volumes 3A/3B and 4 ("Final EIR").

The MMRP for the Modernization Project includes the following required information:

- A list of mitigation and improvement measures, including mitigation measures mandating implementation of Project Design Features;
- The party responsible for implementing the measures;
- The agency/city department responsible for monitoring the implementation;
- The timing for implementation of the measure; and
- The monitoring action and frequency.

The MMRP approach for each of these required components is addressed below and the MMRP is included as Table 1 herein.

1 *List of Measures*

The list of measures included in this EIR is presented in Table 1.

2 *Measure Implementation*

Chevron is responsible for implementing all measures, and for funding the Community Greenhouse Gas Reduction Program and Air

Quality Improvement Fund. The City is responsible for using such funding for eligible measures.

- 3 ***Agency Responsible for Mitigation Monitoring***  
The City is responsible for monitoring and reporting the implementation of Mitigation Measures and Improvement Measures. The City will collaborate with the Bay Area Air Quality Management District (BAAQMD) for Mitigation Measures relating to Air Quality and Greenhouse Gas emissions and emission reduction measures (as further described in *Section 4.3, Air Quality* and *Section 4.11, Greenhouse Gases* of the Draft EIR, and with Contra Costa Health Services (CCHS) for Mitigation Measures relating to Facility safety and related issues (as further described in *Section 4.13, Public Safety* of the Draft EIR).
- 4 ***Timing of Measure Implementation***  
Mitigation Measures included in this Draft EIR generally prescribe Mitigation Measure timing requirements relative to Project-related milestones (e.g., prior to commencing construction, or prior to commencing operation).

A number of improvement measures are also recommended in *Chapter 4, Environmental Setting, Impacts, and Mitigation Measures* of the Draft EIR. Although not required by CEQA, they have been imposed as conditions of approval and will further minimize already less-than-significant impacts. These measures are listed in Table 2. Mitigation measures from the Richmond Long Wharf EIR that are incorporated into the Modernization Project Draft EIR are detailed in Table 3.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<b>4.1 AESTHETICS</b>				
<i>Construction or operation of the Modernization Project would result in no significant impacts to Aesthetics. No mitigation is required or recommended.</i>				
<b>4.2 AGRICULTURAL RESOURCES</b>				
<i>Construction or operation of the Modernization Project would result in no impacts to agricultural or forestry resources. No mitigation is required.</i>				
<b>4.3 AIR QUALITY</b>				
<p><b>4.3-1: All remaining construction activities for the Modernization Project shall comply with the following Bay Area Air Quality Management District (BAAQMD) construction mitigation measures:</b></p>	<p><b>Chevron/Project Contractor</b></p>	<p><b>During construction activities</b></p>	<p><b>Chevron, BAAQMD and, City of Richmond Planning and Building Services Department</b></p>	<p><b>BMPs shall be listed on Plans submitted for building permits, Review and verification by building inspectors, regularly during construction.</b></p>
<p><b>1a: All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12%. Moisture content can be verified by lab samples or moisture probe.</b></p>				
<p><b>1b: All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour.</b></p>				
<p><b>1c: Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.</b></p>				
<p><b>1d: Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</b></p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>1e:</b> The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</p>				
<p><b>1f:</b> All trucks and equipment, including their tires, shall be washed off prior to leaving the site.</p>				
<p><b>1g:</b> Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.</p>				
<p><b>1h:</b> Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.</p>				
<p><b>1i:</b> All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</p>				
<p><b>1j:</b> All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited.</p>				
<p><b>1k:</b> All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.</p>				
<p><b>1l:</b> All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b><u>1m:</u></b> Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.</p> <p><b><u>1n:</u></b> All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.</p> <p><b><u>1o:</u></b> A publicly visible sign shall be posted providing the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.</p>	Chevron/Project Contractor	During construction activities	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Review and verification, continuous during construction. Chevron shall submit for City review and verification quarterly mitigation measure compliance reports reasonably demonstrating compliance with this mitigation measure. Such reports shall be submitted to Building and reviewed and verified in consultation with BAAQMD.
<p><b><u>4.3-2a:</u></b> Chevron shall reduce construction-related NO<sub>x</sub> emissions to less-than-significant levels by implementing one or more of the following feasible mitigation measures, all of which have been found to result in emissions reduction for construction projects:</p> <ul style="list-style-type: none"> <li>▪ Using lower emitting construction equipment, increasing carpooling or otherwise reducing construction-worker automobile use in daily commutes, extending the duration of construction by 1 year by delaying the modifications required to increase the throughput capacity of the FCC FHT until after construction of the hydrogen plant and amine contactor, or reducing the hours of use of construction</li> </ul>	Chevron/Project Contractor	During construction activities	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Review and verification, continuous during construction. Chevron shall submit for City review and verification quarterly mitigation measure compliance reports reasonably demonstrating compliance with this mitigation measure. Such reports shall be submitted to Building and reviewed and verified in consultation with BAAQMD.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>equipment;</p> <ul style="list-style-type: none"> <li>▪ Reducing operations and/or emissions from portable generators at the Facility during the construction period, and thereby reducing NO<sub>x</sub> emissions;</li> <li>▪ Installing the low-NO<sub>x</sub> burners included in the Modernization Project in the first 6 months of the construction period, thereby reducing net NO<sub>x</sub> emissions from the Facility while construction of the Modernization Project continues;</li> <li>▪ Retiring permanent NO<sub>x</sub> emission reduction credits to offset this temporary NO<sub>x</sub> construction increase, in an amount sufficient to offset construction period NO<sub>x</sub> emissions; or</li> <li>▪ Implementing a combination of two or more of the above measures, in an amount sufficient to offset construction-period NO<sub>x</sub> emissions to less-than-significant levels.</li> </ul>	Chevron/Project Contractor	During construction activities	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Review and verification, continuous during construction. Chevron shall submit for City review and verification, in consultation with BAAQMD, quarterly Mitigation measure compliance reports demonstrating compliance with this mitigation measure. Such reports shall be submitted to Building.
<p>4.3-2b: Chevron shall reduce construction-related ROG emissions to less-than-significant levels by implementing one or more of the following feasible mitigation measures, all of which have been found to result in emissions reduction for construction projects:</p> <ul style="list-style-type: none"> <li>▪ Installing the tank dome Project Design Feature, and installing one additional tank dome, in the first 6 months of Project construction, thereby reducing net ROG emissions from the Facility before completing construction of the hydrogen plant or sulfur removal components of the Modernization Project;</li> <li>▪ Using lower emitting construction</li> </ul>				

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>equipment, increasing carpooling or otherwise reducing construction-worker automobile use in daily commutes, extending the duration of construction by 1 year by delaying the modifications required to increase the throughput capacity of the FCC FHT until after construction of the hydrogen plant and amine contactor, or reducing the hours of use of construction equipment;</p> <ul style="list-style-type: none"> <li>▪ Retiring permanent ROG emission reduction credits to offset this temporary ROG construction increase, in an amount sufficient to offset construction-period ROG emissions; or</li> <li>▪ Implementing a combination of the above measures, in an amount sufficient to offset construction-period ROG emissions to less-than-significant levels.</li> </ul>	Chevron	Immediately following 1-year exceedance of the Baseline and continuous thereafter	BAAQMD and City of Richmond Building Division and Engineering Services Department	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and verified by City, in consultation with BAAQMD, after 1-year exceedance of the Baseline and annually thereafter
<p>4.3-5: Chevron shall implement feasible mitigation measures to reduce CAP emissions below applicable BAAQMD significance thresholds and to ensure no net increase in Project CAP emissions over Baseline levels, as follows:</p> <p>5a: NO<sub>x</sub> Mitigation. Chevron shall implement the following measures in an amount sufficient to reduce NO<sub>x</sub> emissions to below the BAAQMD NO<sub>x</sub> significance threshold and to ensure no net increase in Project NO<sub>x</sub> emissions above Baseline NO<sub>x</sub> emission levels:</p> <p>(i) Chevron shall increase the average parcel size—the average ship cargo volume that is delivered or picked up from the Long Wharf—to reduce the number of ship calls, and</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>thereby reduce NO<sub>x</sub> emissions from shipping.</p> <p>(ii) Chevron shall fund and require installation of cleaner main and auxiliary engines on up to six tug boats serving the Long Wharf. Tugs are used to push barges, escort ships and barges, and assisting ships and barges into berths. Chevron shall fund the installation of new, cleaner Tier 4 main engines and Tier 3 auxiliary engines for the number of tugs required to remain below the BAAQMD NO<sub>x</sub> significance threshold, and achieve the mandatory requirement that there be no net increase in Project NO<sub>x</sub> emissions above Baseline NO<sub>x</sub> emission levels.</p> <p>(iii) If, after implementing Mitigation Measures 4.3-5(a)(i) and 4.3-5(a)(ii), either Project NO<sub>x</sub> emissions have not been reduced below the BAAQMD NO<sub>x</sub> significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to fully offset Project NO<sub>x</sub> emissions to Baseline levels on a net basis.</p> <p>(iv) If, after implementing Mitigation Measure 4.3-5(a)(iii), above, Project NO<sub>x</sub> emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project NO<sub>x</sub> emissions are reduced to Baseline levels on a net basis.</p>	Chevron	Immediately following 1-year exceedance of the Baseline and continuous	Chevron, BAAQMD, and City of Richmond Building Division and Engineering	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and verified by City, in consultation with
<p><b>5b: PM<sub>10</sub> Mitigation.</b> Chevron shall implement the following feasible mitigation measures in an amount sufficient to reduce PM<sub>10</sub> emissions to below the BAAQMD significance thresholds and to ensure no net increase in</p>	Chevron	Immediately following 1-year exceedance of the Baseline and continuous	Chevron, BAAQMD, and City of Richmond Building Division and Engineering	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and verified by City, in consultation with

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>Project PM<sub>10</sub> emissions above Baseline PM<sub>10</sub> emission levels:</p> <p>(i) Chevron shall increase the size of the Fluid Catalytic Cracking Electrostatic Precipitator (ESP) by approximately 50% to eliminate an existing NH<sub>3</sub> injection process in the flue gas in the Fluid Catalytic Cracking unit.</p> <p>(ii) If, after implementing Mitigation Measure 4.3-5b(i), above, PM<sub>10</sub> emissions have not been reduced below the BAAQMD significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project PM<sub>10</sub> emissions to Baseline levels on a net basis.</p> <p>(iii) If, after implementing Mitigation Measure 4.3-5(b)(ii), above, Project PM<sub>10</sub> emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project PM<sub>10</sub> emissions are reduced to Baseline levels on a net basis.</p>		thereafter	Services Department	BAAQMD, after 1-year exceedance of the Baseline and annually thereafter
<p><u>5c: PM<sub>2.5</sub> Mitigation.</u> Chevron shall reduce PM<sub>2.5</sub> emissions to below BAAQMD significance thresholds, and to emission levels that ensure no net increase in Project PM<sub>2.5</sub> emission above Baseline PM<sub>2.5</sub> emissions by implementing Mitigation Measure 4.3-5b (PM<sub>10</sub>), which would also reduce PM<sub>2.5</sub> emissions. Additionally, Chevron shall complete a validation study quantifying the relative amount of PM<sub>2.5</sub> reductions achieved by Mitigation Measure 4.3-5b, for review and approval by BAAQMD and the City, to ensure that adequate quantities of PM<sub>2.5</sub> reductions are achieved as required by this Mitigation</p>	Chevron	Immediately following 1-year exceedance of the Baseline and continuous thereafter	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and verified by the City, in consultation with BAAQMD, after 1-year exceedance of the Baseline and annually thereafter

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>Measure 4.3-5c. Finally, Chevron shall implement Mitigation Measure 4.3-6, to reduce health risks from all TACs, including but not limited to PM<sub>2.5</sub>, below the BAAQMD significance thresholds for cancer, and chronic or acute non-cancer risks, and as necessary to ensure no net increase in health risks from all TACs.</p>				
<p><b>5d: SO<sub>x</sub> Mitigation.</b> Chevron shall implement the following feasible mitigation measures in an amount sufficient to reduce SO<sub>x</sub> emissions to below the BAAQMD significance threshold and to ensure no net increase in Project SO<sub>x</sub> emissions above Baseline SO<sub>x</sub> emissions :</p> <p>(i) Chevron shall increase the use of SO<sub>x</sub>-reducing catalyst in the Fluid Catalytic Cracking unit that has been demonstrated to substantially reduce SO<sub>x</sub> emissions in refinery flue gases.</p> <p>(ii) If, after implementing Mitigation Measure 4.3-5d(i), above, SO<sub>x</sub> emissions have not been reduced below the BAAQMD significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project SO<sub>x</sub> emissions to Baseline levels on a net basis.</p> <p>(iii) If, after implementing Mitigation Measure 4.3-5d(ii), above, Project SO<sub>x</sub> emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project SO<sub>x</sub> emissions are reduced to Baseline levels on a net basis.</p>	Chevron	Immediately following 1-year exceedance of the Baseline and continuous thereafter	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and verified by the City, in consultation with BAAQMD, after 1-year exceedance of the Baseline and annually thereafter
<p><b>5e: CO Mitigation.</b> Chevron shall implement the following feasible mitigation measures to</p>	Chevron	Immediately following any 1-	Chevron, BAAQMD, and City of	Verification of reduction in annual report and validation

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>ensure no net increase in Project CO emissions above Baseline CO emission levels:</p> <p>(i) Chevron shall reduce CO emissions to achieve the mandatory requirement that there be no net increase in Project CO emissions above Baseline CO emissions by retiring BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project CO emissions to Baseline levels on a net basis. Permanent retirement of emission reduction credits would ensure that these banked emissions cannot occur within Richmond or elsewhere.</p> <p>(ii) If, after implementing Mitigation Measure 4.3-5(e)(ii), above, Project CO emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations such that Project CO emissions are reduced to Baseline levels on a net basis.</p>		year exceedance of the Baseline	Richmond Building Division and Engineering Services Department	study prepared by Chevron and reviewed and approved by the City and BAAQMD, after 1-year exceedance of the Baseline and annually thereafter.
<p><b>5f: ROG Mitigation.</b> Chevron shall complete the following feasible mitigation measures to reduce ROG emissions to below the BAAQMD significance thresholds and to ensure no net increase in Project ROG emissions above Baseline ROG emissions:</p> <p>(i) Prior to the commencement of Project operations, Chevron shall install a tank dome on Tank 3225;</p> <p>(ii) Within three years following the commencement of Project operations, Chevron shall install tank domes on Tanks 3189 and 3202;</p> <p>(iii) Following the third anniversary of the commencement of Project operations, Chevron shall install domes on one or more</p>	Chevron	Immediately following any 1-year exceedance of the Baseline and as specified in this measure 5f.	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and approved by the City and BAAQMD, after 1-year exceedance of the Baseline and annually thereafter.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>of the following tanks to reduce VOC emissions as necessary to reduce ROG emissions below the BAAQMD significance threshold, and to ensure no net increase in Project ROG emissions above Baseline ROG emissions: Tanks 1491, 3213, 3134, 1688, 1514, 3133, 3071, 992, 3197, 1687, 990, 991, 3073, 1296, 3191, 1287, 3220, 3127, 1488, 1459, 3180, 3074, 3076, 3193, 3128, 3201, and 3075. If, following Project approval, Chevron identifies feasible ROG reduction measures other than tank domes that result in quantified emissions reductions as verified by BAAQMD, City shall consider implementation of such alternative reduction measures in lieu of, or in combination with, the reduction measures required by this Mitigation Measure 4.3-5f(iii), provided that such measures have completed all required CEQA review and permitting processes prior to implementation (it is noted, however, that no such measures are currently identified, planned or approved for implementation.)</p> <p>(iv) If, after implementing Mitigation Measure 4.3-5f(i) through 4.3-5(iii), above, ROG emissions have not been reduced below the BAAQMD significance threshold, or if such emissions remain above Baseline levels on a net basis, then Chevron shall permanently retire BAAQMD-verified emission reduction credits in quantities sufficient to reduce Project ROG emissions to Baseline levels on a net basis.</p> <p>(v) If, after implementing Mitigation Measure 4.3-5(f)(ii), above, Project ROG emissions remain above Baseline levels on a net basis, then Chevron shall curtail Facility operations</p>				

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
such that Project ROG emissions are reduced to Baseline levels on a net basis.				
<p><b>5g: Supplemental Mitigation for all CAPs.</b> In any year that Chevron exceeds Baseline emissions for any CAP, Chevron shall contribute funding for, and participate in, a Clean Air Improvement Fund, which funding shall be in addition to, and payment thereof shall in no way relieve Chevron or the Project of the requirement that the Project achieve no net increase in CAP emissions, as follows:</p> <ul style="list-style-type: none"> <li>▪ Funding shall be in an amount determined based on a benchmark price to be agreed to by the City, BAAQMD and Chevron, as thereafter annually adjusted by the Consumer Price Index value for the San Francisco Bay Area.</li> <li>▪ Funding shall be paid annually within 60 days following approval by BAAQMD of the Emission Inventory for the prior calendar year.</li> <li>▪ All payments into the Clean Air Improvement Fund shall be spent on emission reduction measures for criteria pollutant(s) that increased above Baseline in the following order: (1) reductions from Facility emissions, (2) reductions within the City, and (3) reductions from the North Richmond area closest to the Facility.</li> <li>▪ Funding and implementation decisions shall be made in a public process by a stakeholder group consisting of representatives from the City, the community, and Chevron.</li> <li>▪ A brief report shall be prepared for each major emission reduction measure implemented using such funds, and be</li> </ul>	Chevron and City of Richmond	Immediately following any 1-year exceedance of the Baseline and as specified in this measure 5g.	Chevron, BAAQMD, and City of Richmond	Verification of reduction in annual report and validation study prepared by Chevron and reviewed and approved by the City and BAAQMD, after 1-year exceedance of the Baseline and annually thereafter.

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>made available to help inspire similar emission reduction opportunities.</p> <p>Mitigation Measure 4.3-5g would not create any exception to Chevron's obligation to fully comply with all mitigation measures included in this EIR, including but not limited to Mitigation Measure 4.3-6, which requires the Project to ensure no net increase of health risks over Baseline levels caused by all TAC emissions.</p>				
<p><u>5h.</u> Chevron shall secure a permit amendment from BAAQMD reducing the annualized throughput limit of the Solvent De-asphalting unit to 50,000 barrels per day. This must be completed prior to commencing operation of the new hydrogen plant.</p> <p><u>5i.</u> Chevron shall secure a permit amendment from BAAQMD reducing the hydrogen production limit of each train of the new hydrogen plant from 140 mmscf/day to 122 mmscf/day. This must be completed prior to commencing operation of the new hydrogen plant.</p>	Chevron	Prior to commencement of Project operations.	Chevron, BAAQMD, and City of Richmond	Prior to commencement of Project operations, Chevron shall submit for City review and verification substantial evidence of compliance with this measure.
<p>4.3-6: Chevron shall implement the following measures:</p> <p>6a1: Prior to operation of the Project, Chevron shall implement the following measures to reduce DPM, inclusive of PM<sub>2.5</sub>, to reduce health risk from all Project TAC emissions to below BAAQMD significance criteria (for the 93% Project shipping scenario) and to ensure no net increase of health risks from Project TAC emissions over Baseline levels:</p> <p>(i) Chevron shall fund and require installation of cleaner main and auxiliary engines on one tug boat serving the Long Wharf as well as</p>	Chevron	Prior to the commencement of Project operations.	BAAQMD and City of Richmond Building Division and Engineering Services Department	Prior to the commencement of Project operation, Chevron shall submit for City and BAAQMD review and verification substantial evidence of compliance with this measure.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>non-Chevron facilities. Prior to operation of the Project, Chevron shall fund the installation of new, cleaner Tier 4 main engines and Tier 3 auxiliary engines for one of the six tugboats.</p> <p>(ii) Chevron shall fund and cause to have implemented the project design feature described in the EIR as the removal of three ocean-going vessels (called "SuezMax" because they can go through the existing Suez canal, and have cargo capacity of between 120,000 to 200,000 tons) from West Coast service, and replacement of these vessels with two new Chevron SuezMax ships. The main ship engines of each replacement ship shall meet a Tier 3 standard instead of the required Tier 2 standard, and the auxiliary engines shall be upgraded with turbochargers that are cleaner than Tier 3 standards.</p>				
<p>6a2: Prior to operating the Project in excess of 93% Project utilization, Chevron shall implement a combination of the following measures to reduce DPM, inclusive of PM<sub>2.5</sub>, to reduce health risk from all Project TAC emissions to below BAAQMD significance criteria and to ensure no net increase of health risks from Project TAC emissions over Baseline levels, with all emission reduction amounts from such measures requiring validation by BAAQMD:</p> <p>(i) Chevron shall increase the average parcel size—the average ship cargo volume that is delivered or picked up from the Long Wharf—to reduce the number of ship calls, and thereby reduce DPM emissions from</p>	<p>Chevron</p>	<p>Prior to operating the Project in excess of 93% Project utilization.</p>	<p>Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department</p>	<p>Verification in validation study prepared by Chevron and reviewed and approved by the City, in consultation with BAAQMD, following exceedance of baseline health risk from TACs and exceedance of the 93% Utilization level</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>shipping.</p> <p>(ii) Chevron shall fund and require installation of cleaner main and auxiliary engines on up to five non-retrofitted six tug boat serving the Long Wharf as well as non-Chevron facilities. The Long Wharf is primarily served by six tugs, one of which will have been retrofitted as described in Mitigation Measure 4.3-a1(i) prior to Project operation. Chevron shall fund the installation of new, cleaner Tier 4 main engines and Tier 3 auxiliary engines on the number of tugs required to reduce DPM, and achieve the No Net Increase Project Objective.</p> <p>(iii) If, after implementing Mitigation Measures 4.3-6(a)(2)(i) and 4.3-6a(2)(ii), above, health risk from Project TAC emissions remains above Baseline levels on a net basis, as determined by the health risk assessment required by Mitigation Measure 4.3-6b, below, Chevron shall install electric shore power, and require one or more of the ships using the Long Wharf to use such shore power in lieu of continuing to burn diesel fuel while berthed. Before implementing this mitigation measure, Chevron shall apply to the City and other responsible agencies for necessary permits, and shall complete the environmental process required under CEQA. Implementation of this measure is not required to achieve the performance standard included in this Mitigation Measure 4.3-6.</p> <p>(iv) If, after implementing Mitigation Measures 4.3-6(a)(2)(i) though 4.3-6a(2)(iii), above, health risk from Project TAC emissions remains above Baseline levels on a</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>net basis, as determined by the health risk assessment required by Mitigation Measure 4.3-6b, below, then Chevron shall curtail Facility operations as necessary to ensure that such health risk is reduced to Baseline levels on a net basis.</p>				
<p><b>6b:</b> Chevron shall fund and participate in a Clean Air Improvement Fund for any net increase in health risks from TACs not avoided or mitigated as required in this EIR.</p> <p>(i) In any year for which the BAAQMD-approved emissions inventory, combined with annual emission estimates from shipping, results in an increase over Baseline levels identified in Table 4.3-24 of the three primary risk drivers (DPM, benzene, and naphthalene), even if such emissions are adequately mitigated as CAP emissions through implementation of Mitigation Measure 4.3-5 such that there is no net increase of such CAP emissions over Baseline levels, then Chevron shall, within 60 days, fund the cost of the City's preparation of a new health risk assessment to identify whether these TAC emissions resulted in an increase in risk over Baseline.</p> <p>(ii) If the new risk assessment required by Mitigation Measure 4.3-6(b)(i), above identifies an increase in risk over Baseline risks, then Chevron shall contribute an additional \$100,000 in further funding for the Clean Air Improvement Fund identified in this Mitigation Measure 4.3-6b.</p>	<p>Chevron</p>	<p>As specified in this measure.</p>	<p>Chevron, BAAQMD, and City of Richmond</p>	<p>Chevron's compliance with Mitigation Measure 4.3-6b(i) to be verified by City, in consultation with BAAQMD, within 60 days following issuance of the annual BAAQMD-approved emissions inventory, combined with annual emission estimates from shipping, for any year which results in an increase over Baseline levels. Chevron's compliance with Mitigation Measure 4.3-6b(ii), if applicable, to be verified within 30 days following City's receipt of the health risk assessment as may be required by Mitigation Measure 4.3-6b(i).</p>

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>6c:</b> Chevron shall monitor designated metals in Facility feedstock and refinery fuel gas (RFG)-and report annually on the correlation, if any, between total annual designated metal emissions (as calculated from RFG samples) and average annual concentrations of such metals in feedstocks. The annual report shall address the following metals of concern: nickel, vanadium, selenium, cadmium, and mercury.</p> <p>Metals are TACs, and contribute to health risks, and any net increase in metal emissions would also trigger the mitigation measure compliance requirements in Mitigation Measures 4.3-6a and 4.3-6b, above.</p>	Chevron	Following commencement of Project operations and continuously thereafter.	Chevron, BAAQMD, and City of Richmond Planning Division	Chevron shall submit, and City shall review and verify required reports annually in consultation with BAAQMD. City shall, in consultation with BAAQMD, verify compliance with Mitigation Measures 4.3-6a and 4.3-6b, if such measures triggered by this measure 4.3-6c.
<p><b>6d:</b> Chevron shall monitor average annual sulfur and nitrogen concentrations in Facility feedstocks, and nitrogen-related refinery fuel gas air emissions, and report annually on the correlation, if any, between total annual nitrogen-related CAP and TAC emissions (as reported in the BAAQMD annual Emissions Inventory) and average annual concentrations of sulfur and nitrogen in feedstocks.</p> <p>Any such increase over Baseline would require compliance with mitigation measures specified above to ensure no net increase in CAPs or risks from TACs over Baseline levels.</p>	Chevron	Annually	Chevron, BAAQMD, and City of Richmond Building Division and Engineering Services Department	Chevron shall submit, and City shall review and verify required reports annually in consultation with BAAQMD. City shall verify, in consultation with BAAQMD, compliance with Mitigation Measures 4.3-6a and 4.3-6b, if such measures triggered by this measure 4.3-6d.
<p><b>4.3-7:</b> Chevron shall implement Mitigation Measures 4.3-6a through 4.3-6d.</p>	<i>See referenced Mitigation Measure.</i>			
<p><b>4.3-8:</b> Chevron shall implement the following measures:</p> <p>(a) Chevron shall report annually to the City in writing on the number of odor complaints confirmed by the BAAQMD, and shall specify in such report, where available, whether each</p>	Chevron	Annually and in the event of an increase in odor complaints over the Baseline period	Chevron, BAAQMD, and City of Richmond Planning Division	City shall review reports annually and verify compliance, in consultation with BAAQMD, in the event of an increase in odor complaints over the Baseline period

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
complaint relates to hydrogen sulfide, NH <sub>3</sub> , or an unspecified compound or source.				
<p>(b) If, in any year following commencement of Project operations, there is an increase in odor complaints confirmed by the BAAQMD relative to the number of odor complaints that occurred during the Baseline period, and such increase is due to H<sub>2</sub>S or NH<sub>3</sub> odors, Chevron shall prepare, and submit to the City and BAAQMD for approval, an Odor Management Plan. At minimum, the Odor Management Plan shall:</p> <ul style="list-style-type: none"> <li>▪ Establish protocols for monitoring odors at or from the Facility on an ongoing basis;</li> <li>▪ Provide for the establishment of a regular odor patrol to monitor odors at or from the Facility and to investigate, and take corrective actions with respect to, odor complaints on an ongoing basis;</li> <li>▪ Establish protocols for the prompt recordation and annual reporting to City of odor complaints confirmed by BAAQMD;</li> <li>▪ Establish community outreach protocols describing procedures for informing the public about how and where to submit odor complaints;</li> <li>▪ Describe measures to be implemented as necessary to reduce BAAQMD-confirmed odor complaints below the BAAQMD threshold of significance, which measures shall include, but not be limited to, the following odor mitigation strategies recommended for refineries in the BAAQMD CEQA Guidelines (collectively, the "Odor Reduction Measures"):                             <ul style="list-style-type: none"> <li>(i) implementation of water injections into the hydrocracking process;</li> </ul> </li> </ul>	Chevron	Upon commencement of Project operations.	Chevron, BAAQMD, and City of Richmond Planning Division	Review and verification continuous during Project operations.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>(ii) installation of vapor recovery systems;                      (iii) injection of masking odorants into refinery process streams;                      (iv) installation of flare meters and controls;                      (v) implementation of wastewater circulation technology for aerated ponds;                      (vi) implementation of thermal oxidizers;                      (vii) implementation of carbon absorption mechanisms;                      (viii) implementation of biofiltration and/or bio-trickling filters.</p> <ul style="list-style-type: none"> <li>▪ Establish protocols for (1) the annual review and reporting on the effectiveness of any Odor Reduction Measures implemented pursuant to this Mitigation Measure 4.3-8 and (2) adaptively managing the implementation of Odor Reduction Measures as necessary to maintain complaints below the BAAQMD threshold of significance on an ongoing basis.</li> </ul>	Chevron	Upon commencement of Project operations.	Chevron, BAAQMD, and City of Richmond Planning Division	Review and verification continuous during Project operations.
<p>(c) If, in any year following commencement of Project operations, there is an increase in odor complaints confirmed by the BAAQMD relative to the number of odor complaints that occurred during the Baseline period, and such increase is due to H<sub>2</sub>S or NH<sub>3</sub> odors, Chevron shall implement the odor patrol provided for under the Odor Management Plan and cause it to immediately commence monitoring odors at or from Facility on an ongoing basis, to investigate any odor complaint, to ensure that appropriate action is taken to reduce odors from the affected source, and to document the implementation and effectiveness of the corrective action.</p>	Chevron	Upon commencement of Project operations.	Chevron, BAAQMD, and City of Richmond Planning Division	Review and verification continuous during Project operations.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>(d) If odor complaints above Baseline levels persist for more than 2 consecutive years following commencement of Project operations, Chevron shall fund a qualified third-party engineering firm to assume responsibility for:</p> <ul style="list-style-type: none"> <li>▪ Immediately investigating odor complaints confirmed by the BAAQMD in accordance with Odor Management Plan protocols;</li> <li>▪ Implementing and adaptively managing, at Chevron's sole expense and in consultation with the City and the BAAQMD, one or more of the Odor Reduction Measures described in the approved Odor Management Plan, to reduce or maintain BAAQMD-confirmed odor complaints below the BAAQMD threshold of significance;</li> <li>▪ Monitoring and documenting the implementation and effectiveness of such Odor Reduction Measures and the adaptive management thereof in accordance with Odor Management Plan protocols; and</li> <li>▪ Annually reporting in writing to the City and the BAAQMD on the implementation and effectiveness of such Odor Reduction Measures and the adaptive management thereof in accordance with Odor Management Plan protocols.</li> </ul>	Chevron	Upon commencement of Project operations.	Chevron, BAAQMD, and City of Richmond Planning Division	Review and verification continuous during Project operations.
<p>(e) Chevron shall cause the Project to comply with the City's odor standards and with BAAQMD Regulation 7-303, which limits the concentration of NH<sub>3</sub> from stacks to 5,000 ppm. The Facility heaters shall comply with the BAAQMD Permit Condition 24136, Item #16 limit of 10 ppm NH<sub>3</sub> at 3% oxygen in the stack, which is less than 5,000 ppm. Chevron shall further cause the Replacement</p>	Chevron	Upon commencement of Project operations.	Chevron, BAAQMD, and City of Richmond Planning Division	Review and verification continuous during Project operations.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>Hydrogen Plant to comply with BAAQMD Regulations 7-303 for NH<sub>3</sub> at the other sulfur recovery units. Chevron shall confirm concentration of NH<sub>3</sub> in the stacks of both source categories after construction.</p>				
<p><b>4.4 BIOLOGICAL RESOURCES</b></p>				
<p>4.4-1a: To avoid construction-related direct impacts (nest removal) or indirect impacts (increased noise levels) on nesting birds (including California Department of Fish and Wildlife (CDFW) Fully Protected Species and Species of Special Concern), one of the following measures shall be implemented:</p> <ul style="list-style-type: none"> <li>▪ Conduct vegetation clearing and grubbing activities from September 1 through January 1, when birds (including raptors) are not likely to be nesting on the site;</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>▪ Conduct pre-construction surveys for nesting birds if construction is to take place during the nesting season (January 1 through August 31). A qualified wildlife biologist shall conduct a pre-construction nest survey no more than 5 days prior to initiation of construction activities (including vegetation clearing and grubbing) conducted within 300 feet of any vegetated area to provide confirmation of the presence or absence of active nests on or immediately adjacent to the storage tank dome Project Design Feature within the Tank Farm Area. If active nests are encountered, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in</li> </ul>	<p>Chevron/Project Contractor</p>	<p>No more than 5 days prior to initiation of construction activities (including vegetation clearing and grubbing) (if required)</p>	<p>City of Richmond Planning and Building Services Department/ Biologist</p>	<p>Review of pre-construction survey prior to initiation of construction by Planning; review of buffer design and implementation, once prior to construction and throughout the construction period by Building; review survey report prior to initiation of grading in the nest-setback zone (if required) by Planning &amp; Building</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>the vicinity of the nest shall be deferred until the young birds have fledged. A minimum exclusion buffer of 50 feet (300 feet or more for raptors) shall be maintained during construction, depending on the species and location. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel and activities would be restricted in the area. A survey report by a qualified biologist verifying that (1) no active nests are present, or (2) the young have fledged, shall be submitted to the City and CDFW prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts to these nests occur.</p>				
<p>4.4-1b: One of the following mitigation measures shall be implemented to lessen potential impacts on potential roost habitat and bat species:</p> <ul style="list-style-type: none"> <li>▪ Construction activities near bat roost habitat or removal of potential bat roost habitat shall commence between September and October in order to avoid both the bat maternity period and the bat hibernation period;</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>▪ If this is not feasible, pre-construction bat roost surveys shall be conducted prior to removal of potential roost habitat. Pre-construction surveys for potential bat roost</li> </ul>	<p>Chevron/Project Contractor</p>	<p>Prior to removal of potential roost habitat (if required)</p>	<p>City of Richmond Planning &amp; Building Services Department/ Biologist</p>	<p>Review of pre-construction survey prior to initiation of construction by Planning; review of acoustic surveys prior to construction (if required) by Planning</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>habitat shall be performed in all trees and buildings subject to removal or demolition for evidence of bat use (guano accumulation, acoustic or visual detections). If evidence is found, then acoustic surveys shall be conducted to determine whether a site is occupied. A minimum of three acoustic surveys shall be conducted in areas containing evidence of bat use between April and November under appropriate conditions using an acoustic detector (WBWG, 2002). If necessary, and with approval from CDFW, exclusion of bats from occupied roosts shall be performed in the fall prior to construction. A qualified wildlife biologist shall be present during exclusion.</p>				
<p>4.4-1c: One of the following mitigation measures shall be implemented to lessen potential impacts on potential winter roost habitat for Monarch butterfly:</p> <ul style="list-style-type: none"> <li>▪ Conduct tree removal when Monarch butterflies are not present (typically between March 31 and August 31);</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>▪ If conducting tree removal between March 31 and August 31 is not feasible, pre-construction Monarch butterfly roost surveys shall be conducted by a City-approved biologist within 100 feet of the storage tank dome Project Design Feature prior to initiation of any tree removal activities. If any winter roosts are encountered during the survey, construction shall be postponed until the roosting activity has ended. A follow-up</li> </ul>	<p>Chevron/Project Contractor</p>	<p>Prior to initiation of any tree removal activities and prior to construction (if required)</p>	<p>City of Richmond Planning &amp; Building Services Department/ Biologist</p>	<p>Review of pre-construction survey prior to any tree removal activities by Planning; review follow-up survey prior to construction by Planning &amp; Building</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>survey shall be conducted by an approved biologist prior to construction in order to verify that the roosts have been vacated.</p>				
<p><b>4.5 CULTURAL RESOURCES</b></p>				
<p>4.5-1: In the event that any prehistoric or historic subsurface cultural resources, such as structural features or unusual amounts of bone or shell, artifacts, human remains, architectural remains (such as bricks or other foundation elements), or historic archaeological artifacts (such as antique glass bottles, ceramics, horseshoes, etc.), are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and Chevron and/or the lead agency shall consult with a qualified archaeologist to assess the significance of the find per CEQA Guidelines Section 15064.5. If any find is determined to be significant, representatives of Chevron and/or the lead agency and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation, with the ultimate determination to be made by the lead agency. All significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documented according to current professional standards.</p> <p>As part of the Mitigation Monitoring and Reporting Program for the EIR, Chevron shall have environmental monitors on-site during Modernization Project actions that involve ground-disturbing construction. The</p>	<p>Chevron/Project Contractor</p>	<p>During construction activities</p>	<p>City of Richmond Planning Division/ Archaeologist</p>	<p>Review and verification, continuous during construction</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>construction workers shall be trained by the monitors on environmental sensitivity and the identification of prehistoric or historic subsurface cultural resources.</p> <p>In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the lead agency shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project site while mitigation for historical resources or unique archaeological resources is carried out.</p>	Chevron/Project Contractor	During construction activities	Chevron and City of Richmond Planning Division/ Paleontologist	Review and verification, continuous during construction
<p>4.5-2: In the event of unanticipated paleontological discoveries, such as large deposits of fossil remains, Chevron shall notify a qualified paleontologist who shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. In the event of an unanticipated discovery of a brea, true, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist per Society of Vertebrate Paleontology standards (SVP, 1995). The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>location of the find. If the lead agency determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the impact of the Modernization Project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the lead agency for review and approval.</p>				
<p>As part of the Mitigation Monitoring and Reporting Program for the EIR, Chevron shall have environmental monitors on-site during Modernization Project actions that involve ground-disturbing construction. The construction workers shall be trained by the monitors on environmental sensitivity and the identification of prehistoric or historic subsurface cultural resources.</p>				
<p>4.5-3: In the event that human skeletal remains are uncovered during construction activities for the Modernization Project, Chevron shall immediately halt work, contact the Contra Costa County Coroner to evaluate the remains, and follow the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County coroner determines that the remains are Native American, Chevron shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native</p>	<p>Chevron/Project Contractor</p>	<p>During construction activities</p>	<p>Chevron and City of Richmond Planning Division/ Archaeologist</p>	<p>Review and verification, continuous during construction</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (Public Resources Code 5097.98), with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.</p>				
<b>4.6 ENERGY</b>				
<p><i>Construction or operation of the Project would result in no-significant impacts related to energy. No mitigation is required or recommended.</i></p>				
<b>4.7 GEOLOGY, SOILS, SEISMICITY AND MINERAL RESOURCES</b>				
<p><i>Construction or operation of the Project would result in no-significant impacts related to geology, soils, seismicity and mineral resources. No mitigation is required or recommended.</i></p>				
<b>4.8 GREENHOUSE GAS EMISSIONS</b>				
<p>4.8-1: Consistent with air quality mitigation measures for construction activities, Chevron would be required to implement the following mitigation measures to reduce its Project construction emissions. Implementation of the mitigation measures would result in further reductions in greenhouse gas emissions.</p>	Chevron/Project Contractor	During construction	Chevron, BAAQMD, and City of Richmond Planning & Building Services Department	Review and verification, regularly during construction Chevron shall submit for City review and verification quarterly Mitigation measure compliance reports reasonably demonstrating compliance with this mitigation measure. Such reports shall be submitted to Building and reviewed and verified in consultation with BAAQMD.
<p><b>1a:</b> All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).</p>				
<p><b>1b:</b> Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measure (Title 13 of California Code of Regulations [CCR], Section 2485). Clear signage shall be provided for construction workers at all access points.</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b><u>1c:</u></b> All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.</p>				
<p><b><u>1d:</u></b> The idling time of diesel-powered construction equipment shall be limited to 2 minutes.</p>				
<p><b><u>1e:</u></b> The Project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in construction (i.e., owned, leased, and subcontractor vehicles) would achieve a Project-wide fleet-average 20% nitrogen oxide reduction and 45% particulate matter reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. (Several of these measures would also reduce greenhouse gas emissions.)</p>				
<p><b><u>1f:</u></b> All contractors shall be required to use equipment that meets CARB’s most recent certification standard for off-road heavy duty diesel engines.</p>				
<p><b><u>1g:</u></b> Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<u>1h</u> : Enforce and follow limits on idling time for commercial vehicles, including delivery and construction vehicles.				
<u>1i</u> : Using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment on at least 15% of the fleet.				
<u>1j</u> : Using local building materials of at least 10%.				
<u>1k</u> : Recycling or reusing at least 50% of construction waste or demolition materials.				

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>11:</b> For each year of Project construction, Chevron shall hire, at commercially reasonable rates and at Chevron's expense, a qualified third-party entity reasonably acceptable to the City to quantify and verify in writing whether the reductions achieved from the above described construction greenhouse gas mitigation measures for that year of Project construction adequately mitigated this potentially significant impact, which report shall be subject to City's reasonable approval. For any year of construction for which construction-related diesel emissions are not reduced to or below the 10,000-MT CO<sub>2</sub>e per year significance threshold, Chevron shall implement one or more of the following measures in an amount sufficient to reduce construction period greenhouse gas emissions to less than significant levels:</p> <p>(i) Reduce diesel emissions from other equipment at the Facility, such as a diesel-powered generator, in an amount equal to the construction-related greenhouse gas emissions in excess of 10,000 MT CO<sub>2</sub>e per year for any calendar year of Project construction, which reduced emission level Chevron shall maintain for the following 2 years.</p> <p>(ii) Permanently retire, or retrofit from diesel to electric power, one or more Facility sources that emit more than 300 MT CO<sub>2</sub>e per year.</p>	Chevron/Project Contractor	Annually, as specified in this measure.	Chevron, BAAQMD, and City of Richmond Engineering Services Department	Review of annual construction emissions reports and verification, in consultation with BAAQMD, of compliance additional measures if significance threshold is exceeded
As explained in the Draft EIR, Page 4.8-53, in the event the City selects the 2MW-solar project contemplated by the EIR as a	Solar Project Developer/City of Richmond	Prior to and during construction of	City of Richmond Planning & Building Services	Verification prior to and during construction of solar project -Protection measures

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>potential Community Greenhouse Gas Reduction Program (CGRP) and such solar project is funded all or in part with funds required by Mitigation Measure 2.8-2e below, then, City shall ensure implementation of CGRP Solar Mitigation Measure Haz-1, Haz-2, Bio-1 and Bio-2 described in Section 4.8 of the EIR as follows:</p> <p><b>CGRP Solar Project Mitigation Measure Haz-1:</b> Prior to commencing construction of the solar project, Chevron shall submit for City and RWQCB review the design of the facility, and sufficient information about construction and operational parameters as are determined by the City and/or RWQCB to be needed to assure that the solar project would not reduce the effectiveness of the remediation measures implemented in the solar site area.</p> <p><b>CGRP Solar Project Mitigation Measure Haz-2:</b> Prior to commencing construction of the solar project, Chevron shall update the Facility emergency response and evacuation plans to account for the presence of the solar site on the Facility, and to assure that the modified emergency response and evacuation plans remain effective given the presence of the solar project.</p> <p><b><u>CGRP Solar Project Mitigation Measure Bio-1:</u></b> Standard construction BMPs and specific Project Design Features shall be implemented to treat and minimize discharge of soil and pollutants into the marsh and other off-site vegetated areas during construction and operation of the proposed project. Standard construction BMPs shall be implemented</p>	<p>Planning &amp; Building Services Department</p>	<p>solar project</p>	<p>Department</p>	<p>and areas shall also be included in the Plans submitted for grading and/or construction permits</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>according to a Stormwater Pollution Prevention Plan required under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). Catch basin inlet protection and installation of straw wattles (fiber rolls) shall be used throughout the Project site during construction. Additional construction BMPs required by the Regional Water Quality Control Board and San Francisco Bay Conservation and Development Commission shall also be implemented. Potential impacts on the coastal brackish marsh during construction activities shall also be avoided by placement of exclusion fencing 5-10 feet from the perimeter of the coastal brackish marsh boundary or on the edge of the temporary disturbance area when this distance is greater. The Facility shall provide environmental awareness training for all construction personnel, bright-colored fencing and signage shall identify and restrict construction within environmentally sensitive areas, and a construction monitor/environmental inspector shall confirm the fence integrity on a daily basis to protect the area from accidental equipment damage. Fence repair and/or reinforcements shall be completed immediately.</p>	Solar Project Developer	Prior to and during construction of solar project	City of Richmond Planning & Building Services Department/ Biologist	Verification prior to and during construction of solar project
<p><u>CGRP Solar Project Mitigation Measure Bio-2:</u> To avoid inadvertent construction impacts on salt marsh harvest mouse, Suisun ornate shrew, saltmarsh wandering shrew, and San Pablo vole, a qualified biological monitor shall be present during initial clearing and</p>				

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>grubbing activities prior to installation of solar panel arrays in the vicinity of Herman’s Slough. The monitor shall pre-survey disturbance areas to confirm the absence of special-status small mammals. Contractor education shall include a section specific to species identification and protection measures. The entire project construction area abutting coasts brackish marsh habitats shall be surrounded by exclusion fencing. Fencing installed around the project disturbance area during construction shall be adequate to exclude these species. A maximum speed limit of 25 mph shall be observed by construction and maintenance vehicles. The Facility shall provide environmental awareness training for all construction personnel, bright-colored fencing and signage shall identify and restrict construction within environmentally sensitive areas, and a construction monitor/environmental inspector shall confirm the fence integrity on a daily basis to protect the area from accidental equipment damage. Fence repair and/or reinforcements shall be completed immediately.</p>	Chevron/Project Contractor	Mitigation Measures 4.8-2a though 2c shall be implemented prior to commencement of Project operation.	City of Richmond Planning & Building Services Department	Verification prior to completion of construction

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>2a:</b> Implement water conservation measures during Modernization Project construction;  <b>2b:</b> Install LED Lighting at the Facility during Modernization Project construction;  <b>2c:</b> Implement fluid catalytic cracker cooling water tower motor upgrades during Modernization Project construction;</p>		Prior to commencement of construction	City of Richmond Planning & Environmental Initiatives	Review and verification prior to commencement of construction
<p><b>2e:</b> Provide \$30M over ten years in funding for implementation of the Community Greenhouse Gas Reduction Measures, which measures shall be selected by the City through a public process with input from stakeholders from the City, North Richmond, and Chevron, as described above;</p>	Chevron	Annually for 10 years beginning with issuance of first building permit of Hydrogen Plant Replacement	City of Richmond City Manager’s Office	Review and verification annually
<p><b>2f:</b> Acquiring and timely surrender to CARB Cap and Trade Emission Allowances in quantities sufficient to reduce Facility greenhouse gas emissions to or below Baseline levels on a net basis (rounded up to the nearest metric ton), after taking into account reductions achieved by Mitigation Measures 2a-2ee above;</p>	Chevron	In accordance with the Facility's compliance obligation schedule pursuant to CARB cap-and-trade regulations (Cal Code Regs., tit, 17, § 95800 et seq.)	Chevron/City of Richmond Planning Services & Building Department/ BAAQMD	Review annually and verification in accordance with the Facility's compliance obligation schedule pursuant to CARB cap-and-trade regulations (Cal Code Regs., tit, 17, § 95800 et seq.)

TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>2g:</b> Acquire greenhouse gas reduction credits through the California Air Pollution Control Officers Association (CAPCOA) GHG Rx credit exchange, or through a similar exchange certified by BAAQMD or CARB, in quantities sufficient to reduce Facility greenhouse gas emissions to or below Baseline levels on a net basis (rounded up to the nearest metric ton), after taking into account reductions achieved by Mitigation Measures 2a-2e above, and after taking into account net reductions achieved by Mitigation Measure 2f above;</p> <p><b>2h:</b> Curtail facility operations such that Facility greenhouse gas emissions are reduced to or below Baseline levels on a net basis (rounded up to the nearest metric ton), after taking into account reductions achieved by Mitigation Measures 2a-2e above, and after taking into account net reductions achieved by Mitigation Measures 2f-2g above.</p>	Chevron	In accordance with schedule and process described in EIR Section 4.8.4.1.2.3.3.2.	Chevron/City of Richmond Planning Services & Building Department/ BAAQMD	Review annually and verification in accordance with schedule and process described in EIR Section 4.8.4.1.2.3.3.2.
<p><b>4.8-2B: Clean Air Improvement Fund.</b> Chevron shall fund and participate in a Clean Air Improvement Fund for any Facility greenhouse gas emissions over Baseline.</p> <ul style="list-style-type: none"> <li>▪ Funding shall be in an amount equivalent to the difference between Project and Baseline greenhouse gas emissions (in MT CO<sub>2</sub>e) multiplied by the settlement price of greenhouse gas emission allowances determined at the 1<sup>st</sup> quarter 2014 California Air Resources Board (CARB) auction, annually adjusted by the Consumer Price Index value for the San Francisco Bay Area. The difference between Project and Baseline greenhouse gas emissions shall be determined in accordance with the</li> </ul>	Chevron	In accordance with schedule and process described in EIR Section 4.8.4.1.2.3.3.2.	Chevron/City of Richmond Planning Services & Building Department	Review and verification annually following in accordance with schedule and process described in EIR Section 4.8.4.1.2.3.3.2.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>procedures for determining the Remaining Offset described above in <i>Section 4.8.4.1.2.3.3.2</i>.</p> <ul style="list-style-type: none"> <li>▪ Funding shall be paid annually and in accordance with the procedures described above in <i>Section 4.8.4.1.2.3.3.2</i>.</li> <li>▪ Funding shall be spent on greenhouse gas emission reduction measures in the following priority order: (1) reductions from Facility emissions; (2) reductions within the City; and (3) reductions from the North Richmond area closest to the Facility.</li> <li>▪ Funding and implementation decisions shall be made by the City, as part of a public process, with input from stakeholders including representatives from the City, North Richmond, and Chevron.</li> <li>▪ A brief report shall be prepared for each major emission reduction measure implemented using such funds, and be made available to help inspire other emission reduction opportunities.</li> </ul>				
<b>4.9 HYDROLOGY AND WATER QUALITY</b>				
<p>4.9-1a: Chevron shall prepare and submit a SWPPP to the RWQCB that includes best management practices to treat stormwater runoff during the construction period (and achieve water quality objectives) at least 10 days prior to commencement of construction activities. The BMPs included in the SWPPP shall be implemented during construction.</p>	Chevron/Project Contractor	At least 10 days prior to construction	City of Richmond Building Division and Engineering Services Department/ Hydrologist	Review and approval prior to construction, and verification during construction

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
4.9-1b: Chevron shall implement two Project Design Features (Stripped Sour Water Reuse/Distillation and Reforming Area and Stripped Sour Water Reuse in South Isomax Area) to offset average annual process wastewater flows under the 93% Utilization Scenario.	Chevron	Prior to commencement of Project operations	City of Richmond Building Division and Engineering Services Department/ Hydrologist	Review and verification, continuous during construction
4.9-1c: If the Modernization Project increases wastewater generation above the 93% Utilization Scenario, any increases in wastewater generation shall be offset by implementation of addition water reuse projects, which may include (1) reuse of stripped sour water from 8 and 18 plants to supply wash water for the FCC FHT and hydrocracker located in the North Isomax area; and (2) reuse stripped sour water from 8 and 18 plants to supply wash water for lube crackers in the Richmond lube oil plant area. Additional or alternative stripped sour water reuse measures could also be implemented to assure no net increase in wastewater generation with City approval.	Chevron	Immediately following any increase in utilization above the 93% scenario	City of Richmond Building Division and Engineering Services Department/ Hydrologist	Review and verification, once after new hydrogen plant is fully operational and at least annually thereafter
4.9-2: Any stockpiles of soils containing contaminants generated under the Modernization Project shall be covered with plastic sheeting to ensure that sediments and pollutants are not entrained in runoff or infiltrated into the subsurface during rainfall events. Reuse or disposal of contaminated soils shall be completed in accordance with applicable laws and regulations. If the soil is a hazardous waste, it shall be disposed of off-site at a licensed facility within 90 days of generation.	Chevron/Project Contractor	During construction; within 90 days of hazardous waste generation (if required)	City of Richmond Building Division and Engineering Services Department/ Hydrologist	Review and verification, continuous during construction
4.9-7: Within five years, Chevron shall retain qualified professionals to develop a Facility	Chevron/Project Contractor	Within 5 years of completion of	City of Richmond Planning & Building	Review and approval of contingency plan

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
flood contingency plan that addresses all types of coastal flooding (i.e., storm-related flooding, extreme high tides, and tsunamis) and how these coastal flooding hazards will increase over time due to sea level rise. The contingency plan shall be submitted to the City of Richmond for review and approval.		construction	Services and Engineering Services Departments/ Hydrologist	
<b>4.10 LAND USE, PLANS, AND POLICIES</b>				
<i>Construction or operation of the Project would result in no-significant impacts related to land use, plans and policies. No mitigation is required or recommended.</i>				
<b>4.11 NOISE</b>				
4.11-1a: If nighttime construction is required, no pile driving shall be allowed and the types and intensity of any construction activities shall be limited to ensure noise generation does not exceed the City's nighttime noise limit of 50 dBA or cause an increase greater than 5 dBA.	Chevron/Project Contractor	During nighttime construction activities	City of Richmond Building Division	Verification, continuous during nighttime construction
4.11-1b: If nighttime construction is required and the City of Richmond or the construction compliance and complaint manager receive verified complaints due to noise from the use of backup alarms, Chevron shall implement feasible measures to reduce this noise at the Facility boundary. Measures may include the use of alarms with ambient sensing/broadband technology instead of the traditional fixed level/narrowband alarms or the use of administrative controls such as using a spotter or flagger and prohibiting all foot traffic in the work area.	Chevron/Project Contractor	During nighttime construction activities	Chevron and City of Richmond Planning & Building Services Department	Verification, continuous during nighttime construction
<b>4.12 EMPLOYMENT, POPULATION, AND HOUSING</b>				
<i>Construction or operation of the Project would result in no-significant impacts related to employment, population or housing. No</i>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<i>mitigation is required or recommended.</i>				
<b>4.13 PUBLIC SAFETY</b>				
4.13-2a: Store hazardous materials for Modernization Project construction activities only in the construction staging locations identified in Figure 3-1 ( <i>Chapter 3, Project Description</i> ) unless an alternate location within a previously developed portion of the Facility is approved as part of the building permit approval process.	Chevron/Project Contractor	During construction	Chevron and City of Richmond Building Division	Verification, continuous during construction
4.13-2b: Implement worker training and safety requirements for construction workers, including emergency response and hot work and contractor refinery instructions as more fully described in <i>Section 4.13.2.3</i> and <i>Appendix 4.13-DET</i> , and report training and implementation of safety requirements monthly to the City during construction and demolition activities. Communicate location and scope of Modernization Project-related construction activities weekly to City and Facility management to avoid any conflicts between construction and refining activities. The required implementation will include the new Leak Response Protocol developed since August 2012 ( <i>Chevron, 2012a</i> ).	Chevron/Project Contractor	Prior to construction, and weekly and monthly during construction and demolition	Chevron and City of Richmond Building Division and Fire Prevention Bureau	Review monthly reports and weekly communication during construction
4.13-3a: Demolition and other construction wastes, and hazardous wastes, must be stored only in Facility locations approved by the City.	Chevron/Project Contractor	Prior to construction and during construction and demolition	Chevron and City of Richmond Building Division And Fire Prevention Bureau	Review and approval during construction and demolition

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
4.13-3b: Hazardous wastes must be transported off-site to an authorized disposal, treatment, or recycling facility by a transportation company with appropriate federal and state transporter licenses within 90 days after the wastes are generated.	Chevron/Project Contractor	Prior to construction and during construction and demolition	Chevron and City of Richmond Building Division	Review and approval during construction and demolition
4.13-3c: Non-hazardous demolition and construction waste must be transported off-site to an authorized disposal, recycling, or reuse facility by a transportation company with required transporter licenses within 180 days after the wastes are generated.	Chevron/Project Contractor	Within 180 days of waste generated during construction and demolition	Chevron and City of Richmond Building Division	Verification continuous during and 180 days after completion of construction and demolition
4.13-4a: Chevron will implement its Modernization Project Reliability Program ( <i>Appendix 4.13-PROG</i> ) including updating the detailed PHAs prepared for the 2008 Project for all new and modified Modernization Project components, which shall include ISSAs, damage mechanism reviews, and evaluation of the consequences thereof resulting from the Project, and LOPA, as part of these PHAs, prior to recommencement of construction of the Modernization Project, and again post-construction but before startup of Project operations for any changes that arise during construction that may affect the earlier PHAs, ISSAs, and LOPAs. Chevron will notify CCHS and the City of the availability of these PHAs, and make these PHAs available for review by CCHS and the City. The PHAs (initial and updates/revalidations), ISSAs, damage mechanisms reviews, and LOPAs shall be consistent with (proposed) amendments to the RISO. Chevron shall conduct the LOPAs and submit written LOPA reports, prepared in accordance with industry best practices (such	Chevron/Project Contractor	Prior to construction and again post-construction but before operations	Chevron, City of Richmond Planning Division, Fire Prevention Bureau, and Contra Costa Health Services	Review and verification prior to construction and again post-construction but before operations

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Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>as those issued by the Center for Chemical Process Safety) to CCHS and the City for review prior to construction (and post-construction, for those LOPAs warranting changes based on changes that arise during construction). CCHS will work with the City in implementing these and other Public Safety mitigation measures.</p>				
<p>4.13-4b: Chevron will submit to CCHS a revised RMP and Safety Plan for the modified and new equipment at the Facility, and shall cause a revised RMP and Safety Plan to be submitted by the operator of the new hydrogen plant, in accordance with the requirements established in the applicable regulations. The revised RMPs and Safety Plans shall be submitted by the earlier of: 1) prior to operations; and 2) timing requirements under applicable regulations. The revised RMPs and Safety Plans shall reflect integration of ISSA, including consideration of damage mechanisms and evaluation of the consequences thereof resulting from the changes, as well as the LOPAs, conducted as a part of PHAs (initial and PHA updates/ revalidations), consistent with (proposed) amendments to the RISO. The RMPs must include all required components, including but not limited to a revised “off-site consequence” analysis of worst case and alternate scenarios (EPA, 2009), a revised accident prevention and training program, pre-startup safety reviews and prescribe training and safety requirements for contractors conducting hot work and other designated types of activities. The RMPs must cover accident risks that have been identified in the Project-related PHAs,</p>	Chevron	The earlier of: 1) prior to operations; and 2) timing requirements under applicable regulations.	City of Richmond Planning Division and Fire Prevention Bureau, and, Contra Costa Health Services	Review and verification prior to operations

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>including inherently safer systems analyses conducted as a part of Project-related PHAs and management of change procedures. Chevron will report to the City acceptance of these plans by the CCHS prior to start-up of Modernization Project operations.</p>				
<p>4.13-4c: Chevron will submit an amended hazardous materials business plan to CCHSHMP via the California Environmental Reporting System (CERS) consistent with the timing requirements of the applicable regulations. Chevron shall cause to be submitted by the operator of the hydrogen plant an amended hazardous materials business plan to CCHSHMP. The amendments will reflect the modified and new equipment at the Facility, including the hydrogen plant. Chevron will provide written confirmation to the City of CCHSHMP's acceptance of the amended plans.</p>	Chevron	Consistent with timing requirements of the applicable CCHSHMP regulations	City of Richmond Fire Prevention Bureau Department, CCHSHMP, and Contra Costa Health Services	Review and verification consistent with timing requirements of the applicable CCHSHMP regulations
<p>4.13-4d: Chevron will revise the Facility's SPCC Plans and Facility ERPs consistent with the timing requirements of the applicable regulations, and shall cause the SPCC and ERPs for the hydrogen plant to be updated as well. Plan revisions must address the modified and new equipment at the Facility including the hydrogen plant. Chevron shall make the plans available for review upon request by CCHSHMP and EPA.</p>	Chevron	Consistent with timing requirements of the applicable regulations	Applicable oversight agencies and City of Richmond Building Division; and Contra Costa Health Services	Review and verification consistent with timing requirements of the applicable regulations
<p>4.13-4e: For the additional catalyst identified in Table 4.13-4 (at hydrogen plant and FCC FHT), Chevron will either send spent catalyst for metal reclamation or dispose of the spent catalyst that cannot be reclaimed to a secure and licensed facility. Chevron will maintain records on the amount of catalyst sent for</p>	Chevron	Annually post commencement of operations	Chevron and City of Richmond Planning & Building Services Department	Review and verification annually post commencement of operations

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
reclamation and for disposal and report to the City annually on these amounts.				
4.13-4f: Chevron shall ensure, through its contractual arrangements with Praxair, that Praxair will comply with all mitigation measures in this EIR as they pertain to the new hydrogen plant, and shall require Praxair to cooperate with Chevron as needed to ensure the mitigation measures with regard to the hydrogen plant are effectively implemented. Prior to construction of the new hydrogen plant, Chevron shall provide to the City and County documentation reflecting that these requirements are included in contractual agreements between Chevron and Praxair.	Chevron	Prior to construction of Project's new hydrogen plant	Chevron and City of Richmond Planning & Building Services Department	Review and verification consistent with timing requirements of this measure.
4.13-5a: Chevron is required to continue to implement the following mitigations from the Long Wharf EIR (Chambers Group, Inc., 2006, 2007): OS-3b, OS-3c; OS-4; OS-6b; and OS-7a,b.		<i>See Mitigation Measures OS-3b, OS-3c; OS-4; OS-6b; and OS-7a,b from the Long Wharf Final EIR below.</i>		
4.13-5b: Implement Mitigation Measure 4.13-4d.		<i>See Mitigation Measure 4.13-4d.</i>		
4.13-5c: All spills and releases of hazardous materials or hazardous waste to the environment, including those from the transportation of these materials, must be reported within 48 hours to the City, and to the other appropriate regulatory agencies in accordance with the timing and other notification and reporting requirements prescribed by the applicable laws and regulations. Prompt cleanup of all such spills is also required.	Chevron/Project Contractor	Within 48 hours after all spills and releases of hazardous materials or hazardous waste, and in accordance with applicable laws and regulations	Chevron, City of Richmond Building Division, and Fire Department, and other appropriate regulatory agencies	Verification within 48 hours after all spills and releases of hazardous materials or hazardous waste, and in accordance with applicable laws and regulations
4.13-6: Prior to commencing construction, Chevron shall: <u>6a</u> : For all Modernization Project new and	Chevron	Prior to construction	City of Richmond Planning and Building Services Department	Review and verification prior to issuing building permits

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>modified equipment, including but not limited to the hydrogen plant, Chevron shall obtain new or amended building permits from the City’s Building Department pursuant to City Building Code and CBC requirements in effect at the time the permits are issued.</p>				
<p><b>6b:</b> For all Modernization Project new and modified equipment, including but not limited to the hydrogen plant, that are subject to City of Richmond Fire Department permit requirements, Chevron shall obtain new or amended fire permits from the City of Richmond Fire Department pursuant to City Fire Code and the CFC requirements in effect at the time the permits are issued.</p>	Chevron	Prior to construction	City of Richmond Fire Department	Review and verification prior to issuing permits
<p>4.13-7a: Chevron shall implement the Modernization Project Reliability Program for all units and processes affected by the Modernization Project, including written reports specified in the Modernization Project Reliability Program. An initial Reliability Program report shall be submitted to the City and County prior to Project construction. Annual reports shall be submitted thereafter, including a report prior to commencement of Project operations. For the PHAs (initial and revalidations) specified in the Modernization Project Reliability Program, Chevron would complete the PHAs prior to commencement of Project construction, and again after construction but before startup of Project operations for any changes that may have arisen during construction that could affect the earlier PHAs. Chevron will thereafter update and revalidate PHAs in accordance with the RISO but not less than once every 5 years. As indicated in Mitigation Measure</p>	Chevron	Prior to construction, again prior to operations, annually thereafter, and in accordance with the RISO but not less than once every 5 years thereafter	City of Richmond Planning & Building Services Department and Contra Costa County Health Services	Review and verification prior to construction, again prior to operations, annually thereafter, and in accordance with the RISO but not less than once every 5 years thereafter

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>4.13-4a, the PHAs shall include LOPAs, and written LOPA reports must be submitted to the County prior to construction for review, and Chevron shall submit a copy to the City simultaneously. To the extent that any post-construction PHA revalidations are warranted, Chevron shall submit LOPA reports for the post-construction PHA revalidations to the County for review prior to the startup of Project operations, and Chevron shall submit a copy to the City simultaneously.</p>				
<p>4.13-7b: Chevron shall complete an ISSA (as defined in the RISO), including review damage mechanisms and evaluation of their consequences, and LOPAs with written LOPA reports submitted by Chevron to the County for review, for new and modified Modernization Project components as part of the PHA revalidation process specified in the Modernization Project Reliability Program and Mitigation Measure 4.13-9a. Chevron will make the ISSA and PHAs available for review by the CCHS and the City, and will submit the LOPA reports to the County prior to construction for review.</p>	Chevron	Prior to construction, again prior to operations	City of Richmond Planning & Building Services Department and Contra Costa Health Services, City of Richmond Building Division and Engineering Services Department	Review prior to construction, again prior to operations, annually and every 5 years thereafter
<p>4.13-7c: Chevron will continue to review its procedures and programs for evaluating the hazards of planned changes at the Facility, and update them to incorporate damage mechanism review, including the identification of applicable damage mechanisms as well as the evaluation of the potential impacts of the damage mechanisms in light of the proposed changes, and layers of protection analysis consistent with the Reliability Program. Chevron’s review and</p>	Chevron	Prior to operations	City of Richmond Planning & Building Services Department Chevron, City of Richmond Building Division and Engineering Services Department and Contra Costa	Prior to construction, again prior to operations, and annually thereafter

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>update of programs and procedures shall include, at a minimum, the Facility’s management of change program/procedure and its PHA program/procedure. Chevron shall include, in its annual Modernization Project Reliability Program reports to the City, a description of the status of this documentation review and update process, as well as how the changes to these programs/procedures are being implemented at the Facility.</p>			Health Services	
<p>4.13-7d: Chevron will fund the costs of qualified third-party experts to assist CCHS and the City in the review of PHAs, ISSAs, and LOPAs completed for the Modernization Project pre- and post-construction, and will cooperate in providing access to Chevron documentation and facilities, as needed, for the third-party expert, CCHS, and the City to complete these reviews. At such time as the RISO is amended, and to the extent this amendment requires Chevron to fund a new, full-time chemical process safety inspector to do inspections at the Facility, Chevron shall provide to CCHS and/or the City the level of funding required to hire a new, full-time chemical process safety inspector for the Facility, and thereafter shall no longer be required to fund a separate third-party expert for post-construction reviews of PHAs, ISSAs, and LOPAs or other inspections.</p>	Chevron /Project Contractor	Ongoing, as costs are incurred	City of Richmond Planning & Building Services Department, City of Richmond Building Division and Engineering Services Department in consultation with Contra Costa Health Services	Review prior to construction and post-construction
<p>4.13-7e: Chevron shall provide funding in a reasonable amount sufficient for the City to complete an air deposition background study of air quality at up to 20 locations in Richmond. The study may be done in conjunction with local high school science</p>	Chevron	Ongoing, as costs are incurred	City of Richmond Planning & Building Services Department, City of Richmond Building Division and	Verification of funding obligation prior to commencement of operations; verification of reimbursement obligations continuous thereafter, as necessary.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>departments or otherwise, and may include quarterly sampling, using surface sampling collection pads, and certified laboratory analysis of such pads at locations to be determined. Study results shall be compiled annually, and made publicly available. Chevron will fund this program for a 5-year period following commencement of Modernization Project operations. In the event of a future accidental fire or other significant accidental release of air pollutants from the Facility, Chevron shall reimburse the City for the cost of engaging a qualified consultant to perform additional air deposition sampling and analysis to evaluate the magnitude and significance of the release. The results of the post-accident deposition sampling will be publicly available.</p>			<p>Engineering Services Department</p>	
<p>4.13-7f: Given the Modernization Project would include new equipment and operational practices at the Facility, Chevron will provide further training for and coordinate with the Richmond Fire Department prior to Modernization Project operations. Training would continue annually during Project operations.</p>	<p>Chevron</p>	<p>Prior to operation and annually thereafter</p>	<p>City of Richmond Fire Department</p>	<p>Verification prior to operation and annually thereafter</p>
<p>4.13-7g: Chevron shall work with the Contra Costa Sheriff's Department, the City, and other interested stakeholders, prior to the commencement of Project operations, to evaluate the existing CWS and to determine whether additional services would be beneficial, including but not limited to mechanisms for the provision of emergency messages and communications, translated into multiple different languages</p>	<p>Chevron</p>	<p>Prior to operation</p>	<p>Contra Costa County Sheriff's Department and City of Richmond Public Safety Department</p>	<p>Verification prior to operation</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>(considering possible integration with existing cell phone registration, email, and social media notification databases and systems), and the provision of emergency notifications to locations in the community where large numbers of people may congregate at any given time (such as shopping centers, transit centers such as Bay Area Regional Transit stations, Amtrak stations, and bus stations). Chevron shall contribute toward, and help identify additional funding for, such additional services.</p>	Chevron	Upon commencement of operations and continuous thereafter	City of Richmond Planning & Building Services Department, City of Richmond Building Division and Engineering Services Department; and Contra Costa Health Services	Review and verification upon commencement of operations and continuous thereafter.
<p>4.13-7i: Chevron shall adhere to the total acid number (TAN) limits of 0.3 mg milligrams potassium hydroxide per gram (KOH/g) for crude, 1.5 mg KOH/g for sidecuts produced from the crude unit, and 1.0 for gas oils and blends processed through the fluid catalytic cracker, fluid catalytic cracker feed hydrotreater, hydrocracker, heavy neutral hydrocracker, and light neutral hydrocracker. If Chevron intends to process a feedstock for a short-term basis (i.e., up to 6 months) that exceeds these TAN limits, it must complete</p>	Chevron	Upon commencement of operations and continuous thereafter.	City of Richmond Planning & Building Services Department; City of Richmond Building Division and Engineering Services Department; and Contra Costa Health Services	Review and verification upon commencement of operations and continuous thereafter.

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>its Management of Change (MOC) process, which shall include a corrosion review, for the proposed deviation, and shall take into account any existing damage mechanism reviews as specified in Mitigation Measure 4.13-7c that have been prepared for the identified units and piping circuits. If Chevron intends to process a feedstock for a longer-term basis (i.e., more than 6 months) that exceeds these TAN limits, it must complete its MOC process for the proposed deviation, and the MOC shall include a reliability analysis to evaluate, among other things, existing process conditions, monitoring and inspection data, expected corrosion rates, metallurgy, existing damage mechanism reviews, and monitoring and inspection frequency. The MOC evaluation, for short or longer duration TAN deviations, shall include an evaluation of the potential hazards that could result from the TAN deviation in all affected units and piping circuits, including naphthenic acid corrosion impacts. Chevron shall designate a Facility Area Business Unit Manager with final decision-making authority to approve any TAN deviation from the TAN limits. Chevron shall provide the results of any TAN deviation MOC evaluation to the City and County before processing the feedstock that deviates from the established TAN limits. Chevron shall include in its annual Reliability Program reports: (a) details regarding the results of its MOC for any TAN deviations; (b) average annual TAN for crudes and gas oils/blends processed at the Facility for each calendar year starting with 2008; and (c) for</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
any feedstock runs with TAN levels higher than established TAN limits, include the actual TAN levels of the deviating feeds and the duration of the deviating feedstock runs.				
4.13-7j: Chevron shall include in its annual Reliability Program reports the annual average sulfur content of feedstocks, including separate annual averages for crude oils/blends and gas oils/blends, processed at the Facility for each year since and including 2008.	Chevron	Upon commencement of operations and continuous thereafter	City of Richmond Planning & Building Services Department; and Contra Costa Health Services	Verification due annually
4.13-8: Implement Mitigation Measures 4.13-4a, b, c, d, f; 4.13-5a, b, c; 4.13-6a, b; 4.13-7a, b, c, d, e, f, g, h, i, j; 4.13-11a, b, c.				<i>See referenced mitigation measures</i>
4.13-9a: Chevron will coordinate with the Contra Costa County Sheriff's Department, as owner and operator of the CWS, and other stakeholders, to work with local area schools (Washington Elementary School, Lincoln Elementary School, Peres Elementary School, Verde Elementary School) to ensure that their emergency response procedures and plans are adequate to minimize the risk to students in the event of a refinery incident. This shall include, as necessary, updating plans and procedures, providing emergency response equipment, and providing training to school staff. Chevron will coordinate with the Sheriff's Department and local area schools to ensure that the schools have operational National Oceanic and Atmospheric Administration weather radios and receive training on how to use them. Coordination will be completed prior to start of Modernization Project operations.	Chevron	Prior to operation	Chevron and Contra Costa County Sheriff's Department	Verification prior to operation
4.13-9b: Implement Mitigation Measures 4.13-4a, b, c, d; 4.13-6a, b; 4.13-7a, b, c, d, e, f, g;				<i>See referenced mitigation measures</i>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
4.13-11a, b, c.				
4.13-10a: If contamination is discovered during Modernization Project construction, the Facility will report the discovery to the City, the RWQCB, and any agency required to receive such notice under applicable law, and shall promptly manage, contain, treat, transport, and/or arrange for off-site disposal of such contaminated material as required by applicable law and existing RWQCB Order. Chevron shall also train construction workers to recognize contamination, and shall use authorized remediation contactors with trained workers to characterize and manage any contaminated media discovered during Modernization Project construction.	Chevron	During construction, in the event of contamination	Chevron, City of Richmond Building Division and Engineering Services Department, and RWQCB	Review and verification during construction, in the event of contamination
4.13-10b: If Modernization Project construction occurs in areas subject to RWQCB Order R2-2011-0036, Chevron will first receive approval of the construction activities from the RWQCB, as required under the order, and report the approval conditions to the City. Chevron will comply with applicable regulatory requirements and RWQCB approval conditions in managing the Modernization Project construction activities.	Chevron	Prior to construction in areas subject to RWQCB Order R2-2011-0036	Chevron, City of Richmond Building Division and Engineering Services Department, and RWQCB	Review and verification during construction, in the event of contamination
4.13-11a: Update the Facility's emergency plan to assure that the Modernization Project would not impair implementation of the plan, and to assure that the plan is effective. Develop Emergency Operating Procedures for new and modified Modernization Project equipment. Revisions to the plan and procedures would include clear instructions to ensure all non-essential personnel stay	Chevron	Prior to operation	City of Richmond Public Safety Department and Contra Costa Health Services	Review and verification prior to operation

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Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>outside of hazardous areas during an emergency. Incorporate revisions into a revised Safety Plan submitted to CCHS for approval and acceptance prior to commencement of Modernization Project operation, and report submission date and CCHS approval to the City.</p>	Chevron	Prior to operation and annually thereafter	Chevron, City of Richmond Planning & Building Services Department; City of Richmond Public Safety Department, and Contra Costa Health Services	Review and verification prior to operation
<p>4.13-11b: Ensure Facility personnel and contractors are trained on the revised emergency procedures, including to ensure all non-essential personnel stay outside of hazardous areas during an emergency. Maintain records on initial training and annual refreshers that can be provided to the City or County upon request.</p> <p>4.13-11c: Chevron shall coordinate with the City, County, and other local and regional agencies, including BAAQMD and fire departments in neighboring communities, to plan and conduct periodic emergency response drills, to establish joint operations centers and joint information centers, and to establish communications networks and protocols for emergency response communications extending to these neighboring communities and agencies to further develop the infrastructure and readiness for mutual aid as between these various agencies and fire departments, in the event of emergency response incidents.</p>	City of Richmond Public Safety Department, Contra Costa Health Services, and Chevron	Prior to operation and annually thereafter	Chevron, City of Richmond Public Safety Department, and Contra Costa Health Services	Coordination, review, and verification prior to operation
<p>4.13-12: Chevron will update its fire protection plan to address vegetated open space areas adjacent to process areas, and to assure that Chevron Fire Department personnel are trained and equipped to serve as first responders to a fire in these vegetated areas. The plan will be provided to</p>	Chevron	Prior to operation	City of Richmond Fire Department	Review and verification prior to operation

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Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>and accepted by the Richmond Fire Department prior to start of Modernization Project operations. The plan must include:</p> <p><b>12a:</b> Fuel management, including seasonal mowing, removal of brush, trimming of trees, or other measures to reduce fuel loads during the dry season (i.e., from April 1 through November 30, unless extended by the Richmond Fire Department) in areas within 100 feet of process areas.</p> <p><b>12b:</b> Construction and seasonal maintenance of appropriate fire breaks (e.g., maintenance of unvegetated areas) to minimize size of fire in vegetated open space areas, provided no new vegetative clearing shall be completed until surveys have been completed for protected plants and animals, and the absence of such resources has been confirmed.</p> <p><b>12c:</b> Maintenance of fire roads in vegetated open space areas to provide immediate access to emergency responders, including removal of potential obstacles and brush and leveling of dirt roads on steep hillsides following the end of each rainy season (approximately April or May).</p> <p><b>12d:</b> Emergency response coordination, including enhanced mutual aid, protocols to assure adequate firefighter responses to vegetated open space area fires as well as Facility area.</p>	Chevron	Prior to construction and again prior to operation	City of Richmond Planning & Building Services Department; Contra	Review prior to construction and again prior to operation

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>describing the status of its compliance with all corrective action measures (including, but not limited to, compliance with probationary terms) imposed or agreed to as a result of the agency proceedings relating to the August 6, 2012 fire. As part of this report, Chevron shall describe its ongoing consultations with the agencies that investigated the August 6, 2012 fire, including Cal/OSHA, the CSB, and Contra Costa County, including any feedback or direction that has been provided by those agencies concerning implementation of the corrective action and agency recommendations and Chevron’s response thereto.</p>			Costa Health Services	
<p>4.13-13b: Chevron will fund the costs of a qualified expert in refinery safety, to be selected and retained by the County and/or the City within the County’s and/or City’s discretion, to review the ISSAs, PHAs, LOPAs, and other safety documentation associated with events triggering such ISSAs, PHAs, or LOPAs. Chevron will also cooperate in providing access to Chevron documentation and facilities, as needed, for the expert, the County, and the City review. At such time as the RISO is amended, and to the extent this amendment requires Chevron to fund a new, full-time chemical process safety inspector to do inspections at the Facility, Chevron shall provide to CCHS and the City the level of funding required to hire a new, full-time chemical process safety inspector for the Facility, and thereafter shall no longer be required to fund a separate third-party expert for reviews of PHAs, ISSAs, LOPAs, or other</p>	Chevron	Prior to construction and continuous thereafter	City of Richmond Planning & Building Services Department; City of Richmond Building Division and Engineering Services Department; and Contra Costa Health Services	Review prior to construction and continuous thereafter.

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Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
inspections.				
4.13-13c: Chevron will complete the tri-annual safety audits required by RISO. In addition, upon request by the County and/or City, Chevron shall fund the costs of a qualified third-party expert in refinery safety to perform a safety or compliance audit that would be provided to the County and/or City for review.	Chevron	Ongoing	City of Richmond Planning & Building Services Department; City of Richmond Building Division and Engineering Services Department; and Contra Costa Health Services	Review and verification every 3 years
4.13-13d: Chevron will report to the City quarterly, and shall provide a copy of this report to the County, after Project approval on the status of the corrective actions taken to implement agency recommendations to Chevron resulting from the August 6, 2012 fire, as well as any corrective actions taken by Chevron as a result of its own investigation. To the extent that Chevron elects not to implement a recommendation made by an agency, Chevron shall include in these quarterly reports a detailed explanation of its rationale for doing so.	Chevron	Quarterly after Project approval	City of Richmond Planning & Building Services Department; City of Richmond Building Division and Engineering Services Department; Contra Costa Health Services	Review quarterly after project approval
4.13-13e: Chevron shall fund the City's coordination with the CSB, Cal/OSHA, the BAAQMD, and the EPA on their investigations regarding the Facility to the extent these agencies request City involvement or consultation.	Chevron	Upon agency request to City	City of Richmond Planning & Building Services Department; City of Richmond Building Division and Engineering Services Department	Coordination upon agency request to City
4.13-13f: Chevron shall designate a Facility Area Business Unit Manager as the	Chevron	Prior to commencement of	City of Richmond Planning & Building	Review and verification prior to commencement of

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>management level position bearing responsibility for any and all decisions to not implement a recommendation made during an inspection or turnaround. Chevron shall also designate a Facility Area Business Unit Manager as the management level position bearing responsibility for the establishment of the parameters in the Integrity Operating Window program, as well as for any decisions to override, bypass, or otherwise disregard an alert or flag that arises through the Integrity Operating Window program. The annual Reliability Program reports shall include clear identification of the individuals acting as Area Business Unit Managers to whom these accountabilities have been assigned. If the management position bearing any of these responsibilities changes within Chevron from the Area Business Unit Manager to another management-level job title, Chevron shall notify the City and include an update to this effect in its Reliability Program annual report.</p>		<p>operations and as required by this measure.</p>	<p>Services Department; City of Richmond Building Division and Engineering Services Department; and Contra Costa Health Services</p>	<p>operations and at least annually thereafter</p>
<p>4.13-13g: Prior to the issuance of building and fire permits for the Project, Chevron shall provide to the City documentation demonstrating that it has completed implementation of (to Cal/OSHA's satisfaction) or otherwise discharged (through administrative appeal) all corrective or abatement actions resulting from Cal/OSHA's investigation following the August 2012 fire, and from Cal/OSHA's temporary leak seal investigation.</p>	<p>Chevron</p>	<p>Prior to issuance of building and fire permits</p>	<p>City of Richmond Building Division and Engineering Services Department</p>	<p>Review and verification prior to issuance of building and fire permits.</p>
<p>4.13-13h: Chevron shall establish Integrity Operating Windows (IOWs) to monitor process temperatures, for purposes of</p>	<p>Chevron</p>	<p>Upon commencement of Project operations</p>	<p>City of Richmond Planning &amp; Building</p>	<p>Annually and as reports are submitted</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>identifying process temperature increases above the baseline period (2008-2010) for any individual circuit affected by the Modernization Project (as indicated in the Reliability Analysis Appendix 4.13-REL). The IOW shall establish temperature "flags" for each temperature monitoring location based on industry-standard damage curves. Prior to implementation of the IOW temperature flags, Chevron shall provide information to the City and County regarding the flag trigger temperature levels and the basis for them, and provide the City and County an opportunity to review and comment on them before they are implemented. The IOW-2 temperature flag shall be triggered if the process temperature exceeds the established temperature for a cumulative 365 days, and shall require Chevron to perform a reliability analysis to evaluate, among other things, existing process conditions, flag dates for wall thickness, monitoring and inspection data, expected corrosion rates, metallurgy, existing damage mechanism reviews, and monitoring and inspection frequency. Chevron shall report the results of these reliability analyses in its annual Reliability Program report, and shall make process temperature data for all temperature monitoring locations within each process unit and circuit included in the Reliability Analysis (Appendix 4.13-REL) available for review by the City or County at the refinery. Chevron also shall include in its annual Reliability Program reports a listing of all events relating to process temperatures reaching levels that triggered an IOW-level 2 (defined</p>		<p>and continuously thereafter</p>	<p>Services Department; City of Richmond Building Division and Engineering Services Department; Contra Costa Health Services</p>	

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>by Chevron as a "slower acting event that requires technical evaluation and recommendations within one week") alert during the calendar year that is the subject of the annual report, as well as a description of the resolution of each such event. Chevron shall report to the City and County within one week of any IOW-level 1 (defined by Chevron as a "fast acting event that requires operator action within a shift or two") alert event relating to IOW process temperature parameters for circuits affected by the Modernization Project (as indicated by the Reliability Analysis Appendix 4.13-REL).</p>				
<p><i>Note: See Table 5-3 for the Mitigation Measures from the Long Wharf Final EIR that are applicable to the Modernization Project.</i></p>				
<p><b>4.14 PUBLIC SERVICES</b></p>				
<p><i>Construction or operation of the Project would result in no-significant impacts related to public services. No mitigation is required; however some improvement measures are recommended (see Table 5-2).</i></p>				
<p><b>4.15 PARKS AND RECREATION</b></p>				
<p><i>Construction or operation of the Project would result in no-significant impacts related to parks and recreation. No mitigation is required or recommended.</i></p>				
<p><b>4.16 TRANSPORTATION</b></p>				
<p>4.16-1: Chevron shall work with the director of the City of Richmond Public Works Department (or the director’s designated representative) and Caltrans to provide modified traffic control implemented at the intersection of Castro Street/1-580 Westbound Ramps during peak arrival and departure times in the PM peak hour. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key</p>	<p>Chevron/Project Contractor</p>	<p>During construction in PM peak period</p>	<p>City of Richmond Public Works Department in consultation with Caltrans</p>	<p>Coordination and verification, continuous during construction</p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of Richmond police officers or other law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).</p>				
<p>4.16-2: The following measures shall be implemented at the intersection of Richmond Parkway/Gertrude Avenue:</p> <p><u>2a:</u> Chevron shall work with the director of the City of Richmond Public Works Department (or the director’s designated representative) to provide modified traffic control during peak arrival and departure times in the PM peak hour. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs for sheriff’s deputies or other law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).</p> <p><u>2b:</u> During the peak congestion periods,</p>	Chevron/Project Contractor	During construction in PM peak period	City of Richmond Public Works Department in consultation with Caltrans	Coordination and verification, continuous during construction

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
through the use of traffic cones (and flaggers as needed), Chevron shall reconfigure the southbound (Richmond Parkway) approach to the intersection to provide one shared left-through lane, one through lane, and one shared right-through lane.				
4.16-3: Mitigation Measure 4.16-1 shall be implemented.		<i>See Mitigation Measure 4.16-1.</i>		
4.16-4: The following measure shall be implemented at the intersection of Castro Street/Hensley Street:  Chevron shall work with the director of the City of Richmond Public Works Department (or the director’s designated representative) to provide modified traffic control during peak arrival and departure times in the PM peak hour. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).	Chevron/Project Contractor	During construction in PM peak period	City of Richmond Public Works Department	Coordination and verification, continuous during construction
4.16-5: Mitigation Measure 4.16-2 shall be implemented.		<i>See Mitigation Measure 4.16-2.</i>		
4.16-6: Mitigation Measure 4.16-1 shall be implemented.		<i>See Mitigation Measure 4.16-1.</i>		

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>4.16-7: The following measures shall be implemented, in consultation with the Public Works Director or his designee, at the intersection of Castro Street/General Chemical Access:</b></p>				
<p><b><u>Za:</u> During the AM peak period, through the use of traffic cones (and flaggers as needed), Chevron shall reconfigure the northbound (Castro Street) approach to the intersection to provide two left-turn lanes and one shared right-through lane. The inbound approach on General Chemical Access shall also be reconfigured to provide two receiving lanes.</b></p>	<p><b>Chevron/Project Contractor</b></p>	<p><b>During construction in AM peak period</b></p>	<p><b>City of Richmond Public Works Department</b></p>	<p><b>Verification, continuous during construction</b></p>
<p><b><u>Zb:</u> During the PM peak period, through the use of traffic cones (and flaggers as needed), Chevron shall reconfigure the eastbound (General Chemical Access) approach to the intersection to provide two exclusive right-turn lanes and one exclusive left-turn lane.</b></p>	<p><b>Chevron/Project Contractor</b></p>	<p><b>During construction in PM peak period</b></p>	<p><b>City of Richmond Public Works Department</b></p>	<p><b>Verification, continuous during construction</b></p>
<p><b><u>Zc:</u> Chevron shall work with the director of the City of Richmond Public Works Department (or the director’s designated representative) to provide modified traffic control during peak arrival and departure times in the AM and PM peak hours. The modified traffic control shall be accomplished by one or more of the following methods: (1) posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers); (2) programming an alternate signal timing plan that would be in operation during specified peak commute periods; and/or (3) posting traffic control officers at the</b></p>	<p><b>Chevron/Project Contractor</b></p>	<p><b>During construction in AM and PM peak periods</b></p>	<p><b>City of Richmond Public Works Department</b></p>	<p><b>Coordination and verification, continuous during construction</b></p>

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>intersection to manually control traffic movements. Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (3).</p>				
<p>4.16-8: Mitigation Measure 4.16-4 shall be implemented.</p>				<i>See Mitigation Measure 4.16-4.</i>
<p>4.16-9: Mitigation Measure 4.16-2 shall be implemented.</p>				<i>See Mitigation Measure 4.16-2.</i>
<p>4.16-10: Chevron shall repair any roads damaged as a result of Modernization Project construction activity to a structural condition equal to that which existed prior to construction activity. Prior to Project construction, City of Richmond Public Works Department or the Director's designated representative would document road conditions for all routes that would be used by Project construction-related vehicles. The City would also document road conditions after Project construction is completed. The pre- and post-construction conditions of the haul routes shall be reviewed, and Chevron or contractor(s), and staff of the Public Works Department, would enter into an agreement prior to construction that details the pre-construction conditions and the post-construction requirements of a rehabilitation program.</p>	Chevron/Project Contractor	Prior to and after construction	City of Richmond Public Works Department	Document road conditions prior to construction and after construction, verification of any needed repairs
<p>4.16-11: These intersections are maintained by the County, and thus the City has no independent jurisdiction to enforce any requirement to mitigate impacts at these intersections. However the City and Chevron shall coordinate with the Contra Costa County Department of Public Works to implement the following mitigation measure</p>	Chevron and City of Richmond Public Works Department	During construction	City of Richmond Public Works Department	Coordination and verification, continuous during construction

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>at the intersections of Richmond Parkway and Pittsburg Avenue and Richmond Parkway and Parr Boulevard:</p>				
<p><b>11a:</b> Collect traffic data at the Richmond Parkway/Pittsburg Avenue and Richmond Parkway/Parr Boulevard intersections two weeks after start of construction during the AM and PM peak commute periods (6:00 to 9:00 a.m. and 4:00 to 6:00 p.m.). If traffic data indicate that either or both intersections operate below the established standard (i.e., LOS E or LOS F), Chevron shall work with the director of the City of Richmond Public Works Department (or the director’s designated representative) in coordination with the Contra Costa County Public Works Department to implement one or more of the of the following during the construction period:</p>				
<p>1. Provide modified traffic control during the peak AM and/or PM peak commute periods. The modified traffic control shall be accomplished by one or more of the following methods:</p> <ul style="list-style-type: none"> <li>a. Posting a technician at the intersection to manually operate signal controls (using the police key feature of standard traffic signal controllers)</li> <li>b. Programming an alternate signal timing plan that would be in operation during the peak commute periods</li> <li>c. Posting traffic control officers to manually control traffic movements during peak commute periods</li> </ul> <p>2. Using cones and/or flaggers, temporarily</p>				

**TABLE 1 MITIGATION MEASURE MONITORING AND REPORTING PROGRAM**

Mitigation Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>reconfigure the lane assignments at the intersection during peak AM and/or PM peak commute periods Chevron shall pay the full cost of this measure, including costs of law enforcement personnel to provide the traffic control under above-cited methods (1) or (2).</p>				
<p>4.16-12: Chevron shall post the correct emergency information at the Richmond Lane rail spur crossings in accordance with GO 75-D and evidence of compliance shall be provided to the City prior to issuance of any building or grading permits.</p>	Chevron	Prior to grading permit issuance	City of Richmond Public Works Department	Review and verification prior to grading permit issuance.
<p>All construction located near the rail track within the Project site shall comply with the Public Utilities Commission’s General Orders (GO). Details on the Commission’s General Orders are located here: <a href="http://www.cpuc.ca.gov/crossings">http://www.cpuc.ca.gov/crossings</a>. These General Orders consist of:</p> <ul style="list-style-type: none"> <li>▪ GO 26-D: Clearances on railroads and street railroads as to side and overhead structures, parallel tracks and crossings</li> <li>▪ GO 72-B: Construction and Maintenance – Standard types of pavement construction at railroad grade crossings</li> <li>▪ GO 75-D: Warning Devices for at-grade railroad crossings</li> <li>▪ GO 88-B: Alterations of railroad crossings</li> <li>▪ GO 118: Construction, reconstruction and maintenance of walkways and control, of vegetation adjacent to railroad tracks.</li> </ul>				
<p>4.17 UTILITIES AND SERVICES</p>				
<p><i>Construction or operation of the Project would result in no-significant impacts related to utilities and services. No mitigation is required; however an improvement measure is recommended (see Table 5-2).</i></p>				



TABLE 2 IMPROVEMENT MEASURE MONITORING AND REPORTING PROGRAM

Improvement Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p>4.3-3: The Modernization Project shall implement reasonable and prudent practices to reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions from construction equipment to further reduce this less-than-significant impact. Such practices may include, but are not limited to, the following:</p> <p><b>3a:</b> Idling time of diesel-powered construction equipment shall be minimized.</p> <p><b>3b:</b> Off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) shall be newer, since newer equipment may achieve a Project-wide fleet-average 20% NO<sub>x</sub> reduction, and 45% PM reduction compared to the most recent CARB fleet average.</p> <p>Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.</p> <p><b>3c:</b> All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NO<sub>x</sub> and PM.</p> <p><b>3d:</b> Contractors should use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.</p>	Chevron/Project Contractor	During construction activities	Chevron, BAAQMD and, City of Richmond Building Division and Engineering Services Department	Review and verification, regularly during construction

TABLE 2 IMPROVEMENT MEASURE MONITORING AND REPORTING PROGRAM

Improvement Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<b>4.14 PUBLIC SERVICES</b>				
<p><b>4.14-1:</b>  <u>1a:</u> During the construction phase, Chevron shall hire additional security services as necessary to compensate for the increase in personnel on-site.  <u>1b:</u> Mitigation Measures 4.16-1 through 4.16-5 and Improvement Measure 4.16-1 through 9 (see Section 4.16, Transportation and Traffic) shall be implemented to reduce the demand for help from the Richmond Police Department for traffic-related issues.</p>	Chevron/Project Contractor	During construction	City of Richmond Public Safety Department	Review and verification, continuous during construction
<p><b>4.14-2:</b> Chevron and the Richmond Fire Department shall establish an agreement that ensures training on new equipment and the acquisition of any necessary heavy equipment (e.g., large diameter hoses, large scale pumping equipment).</p>	Chevron/Project Contractor and City of Richmond Fire Department	During construction, prior to and during operations	City of Richmond Fire Department	Review and verification, continuous during construction, prior to and during operations
<b>4.16 TRANSPORTATION</b>				
<p><b>4.16-1 through 9:</b> Chevron shall implement one or more of the following measures to further reduce Modernization Project construction impacts by reducing construction-related traffic trips during the AM and PM peak hours.  <u>1 through 9a:</u> Chevron shall stagger the hours of operation of the craft labor so that the construction-related traffic would be distributed over the peak and non-peak hours of traffic operation.  <u>1 through 9b:</u> Chevron shall promote the use of car-sharing by the craft labor.  <u>1 through 9c:</u> Chevron shall coordinate the schedule among construction of the</p>	Chevron/Project Contractor	During construction	City of Richmond Public Works Department	Review and verification, continuous during construction

**TABLE 2 IMPROVEMENT MEASURE MONITORING AND REPORTING PROGRAM**

Improvement Measures	Implemented By	When Implemented	Monitored By	Monitoring Action and Frequency
<p><b>Modernization Project, construction of the other projects, and the major facility turnaround to minimize combined traffic generation on any single day.</b></p>				
<p><b>4.17 UTILITIES AND SERVICES</b></p>				
<p><b>4.17-1: Prior to issuance of a demolition, grading, or building permit, Chevron shall submit a Debris Recovery Plan and Debris Recovery Report demonstrating that at least 50% of the construction and demolition debris generated on the jobsite is reused, recycled, or otherwise diverted. The Debris Recovery Plan shall be submitted to the City for review and approval.</b></p>	<p><b>Chevron/Project Contractor</b></p>	<p><b>Prior to issuance of a demolition, grading, or building permit</b></p>	<p><b>City of Richmond Building Division and Engineering Services Department</b></p>	<p><b>Review Debris Recovery Plan and Debris Recovery Report prior to issuance of a demolition, grading, or building permit</b></p>

TABLE 3 EXCERPTS FROM CHEVRON LONG WHARF MARINE TERMINAL EIR – MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>OS-3: Chevron’s response capability for containment of spills during transfer operations would result in adverse and significant impacts for spills greater than 50 bbls. Consequences would range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.</p>	<p>OS-3b: Install tension-monitoring devices at Berth 1 to monitor mooring lines and avoid excessive tension or slack conditions that could result in spills. An alarm system (visual and sound) that incorporates communication to the control-building operator shall also be a part of the system. In addition, if any vessel drifts (surge or sway) more than 7 feet from its normal manifold or loading arm position at any other terminal berth, Chevron shall install, within 6 months after the incident, tension-monitoring devices at such berth.</p>	<p>CSLC monitor to observe devices after installation.</p>	<p>Reduces potential for damages and spills.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation, unless otherwise specified.</p> <p>If any vessel drifts more than 7 feet from its normal position, install within 6 months of occurrence.</p>
	<p>OS-3c: Install Allision Avoidance System (AAS) at the terminal to prevent damage to the pier and/or vessel during docking operations. Prior to implementing this measure, Chevron shall consult with the San Francisco Bar Pilots, the U.S. Coast Guard, and the staff of the CSLC and provide information that would allow the CSLC to determine, on the basis of such consultations and information regarding the nature, extent and adequacy of the existing berthing system, the most appropriate application and timing of an AAS at the Chevron Long Wharf.</p>	<p>CSLC monitor to observe devices after installation.</p>	<p>Reduces potential for damages and spills.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation, unless otherwise specified.</p>

TABLE 3 EXCERPTS FROM CHEVRON LONG WHARF MARINE TERMINAL EIR – MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>OS-4: Group V oils have a specific gravity greater than 1 and do not float on the water; instead, they will sink below the surface into the water column or possibly to the bottom. Chevron states in their Spill Preparedness and Emergency Response Plan that no reasonable technology currently exists for a Group V response in the San Francisco Bay. Thus, a release of a Group V oil could result in significant impacts (Class I).</p>	<p>OS-4: Chevron shall confer with the California State Lands Commission (CSLC) regarding Group V oil spill response technology including potential new response equipment and techniques that may be applicable for use at the Long Wharf. Chevron shall work with the CSLC in applying these new technologies, as agreed upon, if recommended for this facility.</p>	<p>Chevron shall submit biannual report on status of new technology and equipment to CSLC.</p>	<p>Provides flexibility in lease to up MM and improve response capability.</p>	<p>CSLC</p>	<p>Submit biannual report for life of lease.</p>
<p>OS-6: Public areas are beyond the hazard footprint boundary; thus fires and explosions would not cause a public safety risk. However, the Wharf's Operations Manual does not address fire emergency procedures and a fire and/or explosion could lead to a release of oil.</p> <p>Since MOTEMS became effective, February 6, 2006, Chevron is required to be consistent with the requirements of sections 3102F3.8 and 3108F2.2 of 24 CCR, Part 2, California Building Code, Chapter 31F for a MOT Fire Plan.</p>	<p>OS-6b: Chevron shall develop a set of procedures and conduct training and drills for dealing with tank vessel fires and explosions for tankers berthed at the Long Wharf. The procedures should include the steps to follow in the event of a tank vessel fire and describe how Chevron and the vessel will coordinate activities. The procedures shall also identify other capabilities that can be procured if necessary in the event of a major incident. The procedures shall be submitted to the U.S. Coast Guard and California State Lands Commission within 90 days of lease renewal.</p>	<p>Chevron shall prepare and submit procedures to CSLC and US Coast Guard for review and approval.</p>	<p>Provides planning and procedures for emergency response.</p>	<p>CSLC</p>	<p>Submit to CSLC within 90 days of lease implementation.</p>

TABLE 3 EXCERPTS FROM CHEVRON LONG WHARF MARINE TERMINAL EIR – MITIGATION MEASURE MONITORING AND REPORTING PROGRAM

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>OS-7: Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant adverse (Class II) impacts for those that can be contained during first response efforts; or significant adverse (Class I) impacts that would have residual impacts. While Chevron does not have legal responsibility for tankers it does not own, it does have responsibility to participate in improving general response capabilities.</p>	<p>OS-7a: Chevron shall participate in an analysis to determine the adequacy of the existing VTS in the Bay Area, if such a study is conducted by a Federal, State, or local agency during the life of the lease. Agencies such as the San Francisco Bay Harbor Safety Committee often conduct studies of safety issues within the Bay Area. As vessel traffic increases in and around the Bay Area and as technology improves, it may be necessary and feasible to upgrade and expand the VTS in and around the Bay Area. Chevron shall participate in this analysis and contribute a pro-rata share toward the upgrade and expansion of the system, if required to do so by the CSLC.</p>	<p>This shall be implemented as a lease condition. Chevron shall demonstrate to CSLC their participation in program strategies to protect sensitive resources.</p>	<p>Reduces potential damage to resources.</p>	<p>CSLC</p>	<p>Life of lease.</p>
	<p>OS-7b: Chevron shall respond to any spill from a vessel traveling to or from the wharf, moored at its wharf, related in any way to the wharf, or carrying cargo owned by Chevron, as if it were its own, without assuming liability, until such time as the vessel's response organization can take over management of the response actions in a coordinated manner.</p>	<p>This shall be implemented as a lease condition. CSLC monitor to observe emergency actions.</p>	<p>Reduces potential damage to resources.</p>	<p>CSLC</p>	<p>Life of lease.</p>



## EXHIBIT C

### MEMORANDUM OF UNDERSTANDING FOR THE MONITORING OF AIR QUALITY MITIGATION MEASURES CONTAINED IN THE CHEVRON REFINERY MODERNIZATION PROJECT FINAL ENVIRONMENTAL IMPACT REPORT

This Memorandum of Understanding ("**MOU**") for the Monitoring of Air Quality Mitigation Measures Contained in the Chevron Richmond Refinery Modernization Project ("**Project**") Final Environmental Impact Report ("**EIR**"), dated June 9<sup>th</sup>, 2014, is made and entered into by and among the City of Richmond, a municipal corporation (the "**City**"), and the Bay Area Air Quality Management District, a regional, government agency that regulates sources of air pollution within the nine San Francisco Bay Area Counties (the "**District**"). City and Air District are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**."

WHEREAS, the City is the lead agency for purposes of evaluating the environmental impacts of the Project under the California Environmental Quality Act ("**CEQA**");

WHEREAS, the District is an expert agency with respect to air quality, including but not limited to air pollution emissions and monitoring, air pollution permitting, air pollution permit enforcement, and engineering evaluations of emissions and emission reduction measures from sources of air pollution including construction and operational emissions from the Chevron Richmond Refinery generally and the Project in particular;

WHEREAS, the City sought the District's technical review and assistance in preparing analysis of air quality issues for the purpose of assuring that the EIR was comprehensive and accurate;

WHEREAS, prior to preparation of the Draft EIR (March 2014) and prior to the preparation of the Final EIR, the District provided technical direction with respect to analytical methodologies, emission inventory data, Project-related emission factors, and engineering evaluations, and quantification of air quality-related mitigation measures;

WHEREAS, the District reviewed administrative drafts of all air quality technical appendices included in the Draft EIR, from which the Project data described in the Air Quality and Greenhouse Gas sections of the Draft EIR were derived, and the District confirmed that it had reviewed and concurred with the calculations included in these technical appendices by letter dated March 14, 2014;

WHEREAS, the District reviewed the Draft EIR, and provided further guidance to the City which resulted in additions and clarifications to Project mitigation requirements;

WHEREAS, the District reviewed the Final EIR, and concurs, based on the methodology employed in the EIR, with the conclusions set forth therein regarding the effectiveness of mitigation measures to assure that there will be "No Net Increase" ("**NNI**") in greenhouse gases, criteria air pollutants, or health risk from toxic air contaminants;

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WHEREAS, as the CEQA lead agency, it is the City's obligation to ensure that mitigation measures are implemented as necessary to ensure NNI in greenhouse gases, criteria air pollutants, and health risks from toxic air contaminants;

WHEREAS, the District and City mutually agree that accurate monitoring to assure implementation of mitigation measures is critical to the achievement of this NNI EIR mandate;

WHEREAS, the District and the City mutually agree that accurate monitoring will require close coordination with the District including use of District-managed annual emission inventory data, knowledge of District-managed emission factors, measurement and monitoring methods and technologies;

WHEREAS, the District and the City likewise agree that the NNI EIR mandate must achieve emission mitigation reductions that are quantified and verified, and not be based solely on changes in modeling or measurement methods, to assure compliance with the EIR Air Quality and Greenhouse Gas Mitigation Measures and Project Approval Conditions attached hereto as **Exhibit A**;

WHEREAS, as the Project applicant, Chevron is required to fund the staff costs and expenses of monitoring for compliance with the mitigation measures approved by the City as part of the approved Mitigation Monitoring and Reporting Program ("**MMRP**") attached hereto as **Exhibit B**, and for EIR Air Quality and Greenhouse Gas Mitigation Measures these monitoring costs include both City and District staff costs and expenses (including the cost of third party experts retained by the City to provide further technical assistance in assuring compliance with these Air Quality and Greenhouse Gas Mitigation Measures;

NOW, THEREFORE, City, District and Chevron agree as follows:

1. **Purpose of this Memorandum of Understanding.** This Memorandum of Understanding ("**MOU**"), when executed by an authorized representative of the District and approved by the City Council, sets forth the overall process by which the City has sought, and the District has agreed, to have District staff assist the City with mitigation monitoring and reporting for air quality and greenhouse gas mitigation measures set forth in the EIR to achieve the NNI outcome.
2. **Relationship to EIR and Project Permitting.** This MOU does not authorize Project construction or any other construction in support thereof, and will not result in either a direct or reasonably foreseeable indirect physical change in the environment; rather, this MOU only commits the Parties to certain obligations related to mitigation monitoring as set forth in the EIR prepared by the City for the Project. This MOU does not alter the City's authority to approve the overall Project under applicable law, nor does it alter the District's authority to approve those components of the Project that fall within the District's permitting jurisdiction under applicable law.
3. **Term.** The Term of this MOU (the "**Term**") shall commence on the Effective Date, and shall terminate upon the earlier to occur of the following: (i) subsequent superseding mutual written agreement of the Parties; or (ii) early termination as provided in Section 11.

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### 4. **Expenses.**

(a) Chevron is obligated, as a Condition of Project approval and as a signatory to this MOU, to fund the annual costs of EIR mitigation monitoring and enforcement. Assuring effective implementation of Air Quality and Greenhouse Gas mitigation measures is an integral component of this required annual EIR mitigation monitoring and reporting. This MOU sets forth the terms by which Chevron will reimburse the District for the District's mitigation monitoring and reporting task. The District shall provide the City with any and all copies of any cost estimates, invoices, and reimbursement records provided to Chevron or received from Chevron relating to its work under this MOU. Nothing in this MOU creates an obligation for the City to compensate the District directly for its work under the MOU.

(b) It is anticipated that the City and District will further refine the procedures for completing this mitigation monitoring and reporting task over time, and that the initial years (construction monitoring and the first years of operational monitoring through the first turnaround of the Crude Unit that occurs following commencement of operations of the new Hydrogen Plant) will likely require more staff-intensive work than subsequent years.

(c) It is the intent of the Parties that this mitigation monitoring and reporting task is intended to be as cost-effective and efficient as possible, and will make maximum use of emission monitoring and reporting data available to the District and the California Air Resources Board ("**CARB**"). It is also the intent of the Parties that if or as needed, further information may be requested of Chevron (or suggested by Chevron) to improve the efficiency of this mitigation monitoring and reporting task.

5. **Amendment.** This MOU may be amended from time to time, in whole or in part, by mutual written consent of the Parties.

## EXHIBIT C

### 6. **Default; Termination.**

(a) **Process.** This MOU may be terminated at any time by mutual written consent of the Parties. Any Party shall have the right to terminate this MOU upon its good faith determination that another Party is not proceeding diligently and in good faith to carry out its obligations hereunder. The non-defaulting Party shall exercise such right by providing at least thirty (30) days' advance written notice to the defaulting Party which notice shall describe the nature of the default hereunder. Notwithstanding the foregoing, if the defaulting Party commences to cure such default within such 30-day period and diligently prosecutes such cure to completion within the earliest feasible time but not later than sixty (60) days following the date of the notice, this MOU shall remain in effect. The parties' authorized representatives shall meet and confer prior to exercising any right to terminate.

(b) **Effect of Termination.** Upon termination as provided herein, or upon the expiration of the Term and any extensions thereof, this MOU shall forthwith be void, and there shall be no further liability or obligation on the part of any of the Parties or their respective officers, employees, agents or other representatives; provided however, the provisions of Section 7 (Legal Action), Section 8 (Confidentiality; Dissemination of Information), and Section 9 (Indemnification) shall survive such termination.

7. **Legal Action.** Neither Party may institute legal action to cure, correct, or remedy any default, enforce any covenant or MOU in this MOU, enjoin any threatened or attempted violation thereof, and enforce by specific performance the obligations and rights of the Parties thereto. The sole and exclusive remedy for any default or violation of this MOU will be a meet and confer process to effectuate the purpose of this MOU. Nothing in this MOU eliminates the City's duty as the lead agency under CEQA to implement the Project Mitigation Monitoring and Reporting Program. Nothing herein shall be interpreted as creating any rights or benefits in any third parties.

8. **Confidentiality; Dissemination of Information.** Each Party shall obtain the consent of the other Parties prior to issuing or permitting any of its officers, employees or agents to issue any press release or other information to the press with respect to this MOU; provided however, no Party shall be prohibited from supplying any information to its staff and elected officials to the extent necessary to accomplish the activities contemplated. Nothing contained in this MOU shall prevent any Party at any time from furnishing any required information to any governmental entity or authority pursuant to a legal requirement, or from complying with its own legal or contractual obligations. The Parties each agree to maintain the confidentiality of the studies, analyses, reports and correspondence prepared in connection with the MOU to the fullest extent permitted by law. However, any confidential information that the Parties may be obligated to disclose under California Public Records Act (California Government Code Sections 6250 et seq., the "Act") may be released and disclosed by the Parties pursuant to the Act, and any such release or disclosure shall not in any way constitute a breach of this MOU, nor shall the Parties be liable for such release or disclosure. The District shall keep and make available for inspection and copying by authorized representatives of the City, its regular business records and additional records pertaining to this Agreement as may be requested by the City; provided,

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however, that the District is not obligated under this Agreement to turn over records that are not "public records" under applicable law.

9. **Indemnification**. No Party has any obligation to indemnify or hold harmless any other Party in connection with this MOU.

10. **Governing Law; Venue**. This MOU shall be governed by and construed in accordance with the laws of the State of California without regard to principles of conflicts of laws. All disputes arising hereunder shall be heard in courts having jurisdiction in Contra Costa County, California.

11. **Staff Approval of Factual Accuracy and Form of MOU**. As of July \_\_, 2014, the following representatives of the Parties agree the factual accuracy of the information set forth herein.

**CITY**

**CITY OF RICHMOND,  
a municipal corporation**

By: \_\_\_\_\_

Name: \_\_\_\_\_  
Bill Lindsay, City Manager

ATTEST:

By: \_\_\_\_\_  
Diane Holmes, City Clerk

**BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT,**

\_\_\_\_\_

By: Brian C. Bungler

Name: \_\_\_\_\_  
District Counsel

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12. Effective Date. This MOU becomes effective as of the date by which both Parties have signed this MOU as noted below:

**CITY**

**CITY OF RICHMOND,  
a municipal corporation**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Bill Lindsay, City Manager

ATTEST:

APPROVED AS TO FORM:

By: \_\_\_\_\_

Diane Holmes, City Clerk

By: \_\_\_\_\_

Bruce Reed Goodmiller, City Attorney

**BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT,**

By: \_\_\_\_\_

Date: \_\_\_\_\_

Jack P. Broadbent, Executive  
Officer/Air Pollution Control Officer

APPROVED AS TO FORM:

By: \_\_\_\_\_

Brian C. Bunger, District Counsel

**CHEVRON USA INC.**

By: \_\_\_\_\_

[Name/Title]