

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Addendum to the Final Environmental Impact Report for the Martinez Renewable Fuels Facility (as Revised)

July 30, 2025

State Clearinghouse No. 2021020289

[June 2025 Revised EIR Certified on June 24, 2025]
[May 2022 Final EIR Certified on May 3, 2022]

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1.0 INTRODUCTION

Contra Costa County previously authorized the construction and operation of the Martinez Renewable Fuels Project at Tesoro Refining & Marketing Company LLC's (Tesoro) Martinez Refinery¹. The Renewable Fuels Project repurposed the Martinez Refinery (Refinery or Facility) to produce fuels from renewable sources rather than from crude oil. As part of that project, some existing Refinery equipment was shutdown, altered or replaced, and new equipment units and tanks were installed, to facilitate production of fuels from renewable feedstock (as opposed to crude oil). Crude oil processing equipment that could not be repurposed for processing of renewable feedstock was shut down. Upon completion of the conversion, the Facility can now process up to 48,000 barrels per day of renewable feedstock (instead of 161,000 barrels per day of crude oil) and can produce renewable diesel fuel, renewable propane, and renewable naphtha.

A Final Environmental Impact Report (EIR) for the Renewable Fuels Project was prepared and certified by Contra Costa County on May 3, 2022, and a Final Revised EIR was certified by Contra Costa County on June 24, 2025. The Project approved by the May 3, 2022 Final EIR and 2025 Final Revised EIR is referred to as the Approved Project and "Final EIR" in this Addendum. Changes to the Approved Project are evaluated in this addendum and referred to as the Modified Project. The Modified Project proposed four modifications to the Approved Project: (1) Permit 18 additional storage tanks to handle renewable feedstocks and products; (2) adjust the heating value for a foul water stripper thermal oxidizer's heating value to reflect the unit as-built; (3) add shipments by truck as an alternative to marine vessel and rail to account for locally sourced feedstocks; and (4) add an unloading spot for vacuum trucks operating within the facility at a location within Tract 4. The changes to the Approved Project are described in Section 4.0, Project Description. Changes to the Approved Project as described herein were not analyzed in the Final EIR and discretionary approval of modifications to the Refinery's air permit is required by the Bay Area Air Quality Management District (Bay Area Air District)².

2.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT AND BASIS FOR DECISION TO PREPARE AN ADDENDUM

The Bay Area Air District review and approval of the currently proposed modifications to the Renewable Fuels Project require a discretionary permitting action subject to CEQA. When the Renewable Fuels Project was originally proposed, the Bay Area Air District acted as Responsible Agency under CEQA. At the time the Renewable Fuels Project was proposed, the Bay Area Air District staff evaluated the potential air quality impacts associated with the construction and operation of the various components of the project and provided comments to Contra Costa County (County), the Lead Agency under CEQA, for the Draft EIR. The County prepared and certified the Final EIR for the Renewable Fuels Project. Feasible mitigation measures to address the potentially significant adverse impacts were identified in the Final EIR, which were made a

¹ Prior to the conversion of the refinery to a renewable fuels facility, Tesoro Refining & Marketing Company, LLC (Tesoro) held a doing business as to identify the refinery as Marathon Martinez Refinery. Tesoro holds and maintains the air permit for Martinez Renewable Fuels Facility.

² Air District applications encompassed by the Modified Project include application numbers 720986, 720845, and 725032. Additional permit applications may be submitted in the future.

condition of approval, and a Mitigation Monitoring and Reporting Plan (MMRP) was adopted for the Approved Project. Findings were made and a Statement of Overriding Considerations was adopted by the County.

The Modified Project consists of modifications to the previously approved Renewable Fuels Project that was evaluated in the Final EIR and is a “project” subject to CEQA. CEQA requires evaluation of the potential adverse environmental impacts of proposed projects and identification of feasible methods to reduce or avoid identified significant adverse environmental impacts of the project. However, CEQA Guidelines Section 15164(a) allows the preparation of an Addendum to a previously certified EIR if some changes or additions are necessary but none of the following conditions as described in CEQA Guidelines Section 15162 occur:

- Substantial changes which will require major revision of the previous CEQA document due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes, with respect to the circumstances under which the project is undertaken, which will require major revisions of the previous CEQA document due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or,
- New information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the previous CEQA document was certified as complete, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous CEQA document;
 - Significant effects previously examined will be substantially more severe than shown in the previous CEQA document;
 - Identification of mitigation measures or alternatives previously found not to be feasible, but would in fact be feasible, and would substantially reduce one or more significant effects, but the project proponent declines to adopt the mitigation measure or alternatives; or
 - Identification of mitigation measures or alternatives which are considerably different from those analyzed in the previous CEQA document would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measure or alternative.

The currently proposed modifications to the Renewable Fuels Project described in Section 4 require discretionary revisions to the Bay Area Air District air operating permit.

To determine whether the conditions described in CEQA Guidelines Section 15162 have occurred, the effects of the proposed modifications to the Renewable Fuels Project were compared to the

baseline or the existing setting of the environmental impacts of the original Renewable Fuels Project as initially reviewed and approved in the Final EIR.³

As concluded in Section 6.0 of this Addendum, the currently proposed modifications to the Renewable Fuels Project do not change the conclusions reached in the Final EIR. Those documents concluded that significant adverse impacts are expected to occur for the topics of: 1) air quality impacts due to NOx emissions from railcars in Placer County and the San Joaquin Valley Air District, and cumulative particulate matter emissions; 2) biological impacts in the event of a major spill from a marine vessel and biological impacts associated with the potential introduction of invasive nonindigenous aquatic species associated with marine vessel calls; (3) hazards and hazardous materials associated with increased marine transport risk during operation; and (4) water quality impacts in the event of a major spill from a marine vessel. As explained in Subsections 6.1 through 6.14 of this Addendum, the currently proposed modifications to the Renewable Fuels Project will neither increase the severity of these significant adverse impacts nor result in new significant adverse impacts beyond those previously identified in the Final EIR.

The analysis in Sections 6.0 and 7.0 of this Addendum sets forth substantial evidence that the currently proposed revisions to the Renewable Fuels Project are not expected to trigger any conditions identified in CEQA Guidelines Section 15162 that would require the preparation of a subsequent EIR because: 1) the proposed revisions do not create any new significant adverse environmental impacts; 2) proposed revisions do not make substantially more severe any existing significant adverse environmental impacts; and 3) only require minor additions or changes to make adequate the environmental analyses of the Renewable Fuels Project in the previous CEQA documents (i.e., the Final EIR). Therefore, when considering the effects of the Modified Project, the Bay Area Air District has determined that: 1) the Modified Project is within the scope of what was previously analyzed in the Final EIR; and 2) an Addendum is the appropriate type of CEQA document to be prepared for evaluating potential environmental impacts.

The previous paragraphs and the impact analyses in Sections 6.0 and 7.0 of this Addendum provide the rationale to comply with CEQA Guidelines Section 15164(e) which requires a brief explanation supported by substantial evidence to be included in the Addendum about the reasoning behind the decision to not prepare a subsequent EIR or supplemental EIR under Guidelines sections 15162 and 15163, respectively. Although CEQA contains a presumption of finality after an EIR is certified, because there are proposed changes to the Approved Project that require discretionary action by the Bay Area Air District, this Addendum is appropriate. Finally, pursuant to CEQA Guidelines Section 15164(c), “an addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.”

3.0 CEQA DOCUMENTS PREPARED FOR THE RENEWABLE FUELS PROJECT

This section provides summaries of the activities associated with the Renewable Fuels Project that were evaluated in CEQA documents, which are presented in sequential order. The CEQA documents can be downloaded from the Contra Costa County Webpage at: <https://www.contracosta.ca.gov/7961/Martinez-Refinery-Renewable-Fuels-Projec>.

³ See Page 6 for more details on the 2025 Revised Final EIR.

February 2021 Notice of Preparation of an Environmental Impact Report and Initial Study (Contra Costa County, 2021): The County prepared and Initial Study (IS) and published a Notice of Preparation (NOP) for the Renewable Fuels Project were released for a 30-day public review and comment period from February 18, 2021 to March 22, 2021. The NOP included a project description, project location, and a preliminary discussion of potential adverse environmental impacts. The NOP requested public agencies and other interested parties to comment on the scope and content of the environmental information to be evaluated in the Draft EIR. A public scoping meeting was held on March 15, 2021.

October 2021 Draft EIR (Contra Costa County, 2021): The Draft EIR was released for a 60-day public review and comment period from October 18, 2021 to December 17, 2021. The Draft EIR included a project description, a description of the existing environmental setting, a preliminary analysis of potential adverse environmental impacts for each environmental topic (including cumulative impacts) that could be adversely affected by the proposed project, mitigation measures, project alternatives, and all other relevant topics required by CEQA. The Draft EIR also included a copy of the February 2021 NOP (Appendix NOP). The Draft EIR concluded that the Project would have significant and unavoidable impacts associated with: 1) air quality impacts during operation (NOx emissions associated with transportation), and cumulative particulate matter emissions; 2) biological resource impacts associated with oil spills and invasive nonindigenous aquatic species from marine vessel visits; 3) the transport of hazardous materials in the event of a marine vessel spill; and 4) water quality impacts in the event of a marine vessel spill.

The Project would result in less than significant impacts following mitigation for: 1) construction air quality and odor impacts; 2) construction impacts on biological resources; and 3) cultural and tribal cultural resources.

The Project would result in less than significant impacts on aesthetics, energy, greenhouse gas emissions, land use, noise, public services, transportation, and utilities and service systems. Impacts to all other environmental topic areas were also concluded to be less than significant.

December 2021 Final EIR (Contra Costa County, 2021): The Final EIR was prepared by revising the Draft EIR to update project information and present the responses to comments received on the Draft EIR. Thirty-three comment letters, plus 227 form letters were received on the Draft EIR. Responses to comments were prepared and minor modifications to the Final EIR were made. The changes that were reflected in the Final EIR did not constitute significant new information relating to the environmental analysis or mitigation measures that were presented in the Draft EIR. The Final EIR was certified on May 3, 2022, along with Findings, Statement of Overriding Considerations, and MMRP.

In June 2022, a lawsuit was filed in the Contra Costa County Superior Court challenging the certification of the 2022 Final EIR and approval of the Project (Communities for a Better Environment, et al., v. County of Contra Costa, et al., Contra Costa County Superior Court Case No. N22-1080.) On July 21, 2023, the Superior Court issued a Statement of Decision in which the Superior Court concluded that the 2022 EIR was adequate on all counts, except in its discussion and deferral of odor mitigation. On August 23, 2023, the Superior Court entered judgment and

issued a peremptory writ of mandate to the County to partially decertify the 2022 EIR and remanding the matter to the County for reconsideration of the odor mitigation measures only. The County prepared a Revised Environmental Impact Report (Revised EIR) to respond to the decision by the Court.

August 2024 Draft Revised EIR (Contra Costa County 2024): A Draft Revised EIR was prepared to provide new information regarding the Project’s odor mitigation to replace Section 3.3 Air Quality of the 2022 EIR as directed by the Superior Court. The Superior Court decision did not invalidate any aspect of the 2022 EIR except for the odor mitigation measures. The County prepared a Revised EIR to address the one issue identified by the Court. The remainder of the 2022 EIR previously prepared and certified by the County was either not challenged or was found by the Court to be in compliance with CEQA, and therefore remains valid. The 45-day comment period began on August 5, 2024 and ended on September 19, 2024.

June 2025 Final Revised EIR (Contra Costa County 2025): The Revised Final EIR was prepared by revising the Revised Draft EIR to update the odor mitigation measure and present the responses to comments received on the Revised Draft EIR. Four comment letters were received on the Revised Draft EIR. Responses to comments were prepared and minor modifications were made to the Odor Control and Management Plan. The changes that were reflected in the Revised Final EIR did not constitute significant new information relating to the environmental analysis or mitigation measures that were presented in the Revised Draft EIR. The Revised Final EIR was certified by the County on June 24, 2025, along with Findings, Statement of Overriding Considerations, and MMRP.

4.0 MODIFIED PROJECT DESCRIPTION

The Modified Project is proposing four modifications to the previously Approved Project that require discretionary air permit modifications by the Bay Area Air District: (1) Permit 18 additional storage tanks to handle renewable feedstocks and products; (2) adjust the heating value for a foul water stripper thermal oxidizer’s heating value to reflect the unit as-built; (3) add shipments by truck as an alternative to marine vessel and rail to account for locally sourced feedstocks; and (4) add an unloading spot for vacuum trucks operating within the facility at a location within Tract 4.

Permit 18 Additional Storage Tanks for Renewable Fuel

The Final EIR was prepared assuming the following:

“As many as 29 existing aboveground tanks on the Refinery property would be repurposed for storage of renewable fuels and other commodities used in the process of fuel production. Fifteen of these tanks would receive upgrades or modifications to accommodate the proposed Project, including installation of heating units and mixers to keep renewable feedstocks in liquid form. *Remaining tanks on the property would be maintained and utilized according to their pre-Project usage for petroleum-based materials storage prior to distribution to the market.*” (emphasis provided)

As part of the environmental evaluation for the Renewable Fuels Project, these “[r]emaining tanks” were assumed to be in operation during the CEQA baseline period defined in the Final EIR and anticipated to continue operating in petroleum hydrocarbon-based service after the Renewable Fuels Project was completed. Accordingly, the 18 existing storage tanks (i.e., S-690, S-694, S-705, S-706, S-272, S-274, S-429, S-641, S-707, S-1461, S-871, S-1489, S-1490, S-1491, S-3, S-270, S-823, and S-824) that are proposed to have renewable fuels added to their service were evaluated as part of the group of “[r]emaining tanks” that would support the Facility. Now that the Facility processes only renewable feedstock, Tesoro is proposing to permit the 18 tanks to handle renewable fuels and related products/byproducts while maintaining their current permitted service. This first Modified Project element would not require any construction activities or physical or operational changes to any of the storage tanks.

Thermal Oxidizer’s Heating Value

In the second Modified Project element, Tesoro is proposing a slight adjustment of the heating value for the foul water stripper thermal oxidizer’s heating value to reflect the true capability of the unit as opposed to the anticipated capacity that was permitted. The as-built high heating value of the thermal oxidizer was determined to be slightly greater than the original design (from 1.91 mmBtu/hr to 2.2 mmBtu/hr). No physical changes or operational changes are required for this reconciliation.

Allow Shipments by Truck as Alternative to Marine Vessel and Rail

In the third Modified Project element, to allow for flexibility in feedstock sourcing, Tesoro is proposing to add receipt by truck as an alternative to marine vessel and rail to account for locally sourced feedstock. Receipt by truck was not considered in the evaluation under the Final EIR for the Approved Project. In an effort to reduce off-site handling (e.g., transferring feedstock from trucks into railcars or marine vessels for delivery into the Facility) and provide more flexibility and opportunity to purchase renewable feedstock from local sources, Tesoro is proposing to repurpose an existing truck offloading spot to receive renewable feedstock. No increase in feedstock throughput will occur as a result of alternatively offloading renewable feedstock at a truck offloading spot on-site (i.e., approximately 25 trucks per day), but instead, marine vessel and rail traffic will be reduced when feedstock is received by truck. To provide a conservative analysis, it was assumed that these 25 trucks travel from the San Joaquin Valley area to the Facility, so emission calculations assume off-site as well as on-site travel. To keep renewable feedstock in a dedicated system, Tesoro is proposing to replace an existing pipe along with ancillary equipment and add up to approximately 300 feet of new piping. The new and repurposed pipes will be insulated and electrical heating (known as, heat trace) will be installed.

Add Location for Vacuum Trucks

Finally, the operation of vacuum trucks within the Facility were considered to be ongoing operations with no changes in the number of truck trips from the CEQA baseline period defined in the Final EIR. However, some of the vacuum trucks unloaded at the crude unit in the baseline period, and that unit is not operating as part of the Renewable Fuels Project. Because the crude unit is not operating, the Modified Project will change the primary unloading spot for vacuum

trucks to within the area of Tract 4 at an existing piping location to facilitate the reprocessing of the material. The activity level of vacuum trucks is assumed to remain the same as in the baseline period (i.e., approximately 2,500 trucks per year or seven trucks a day) with the unloading location changing. These seven trucks per day transport material around the Facility and remain on-site. However, it is likely that the vacuum truck activity would decrease due to the decrease in production capacity (161,000 bpd vs. 48,000 bpd).

Potential impacts associated with the Modified Project are discussed in Sections 6.0 and 7.0.

5.0 PROJECT LOCATION

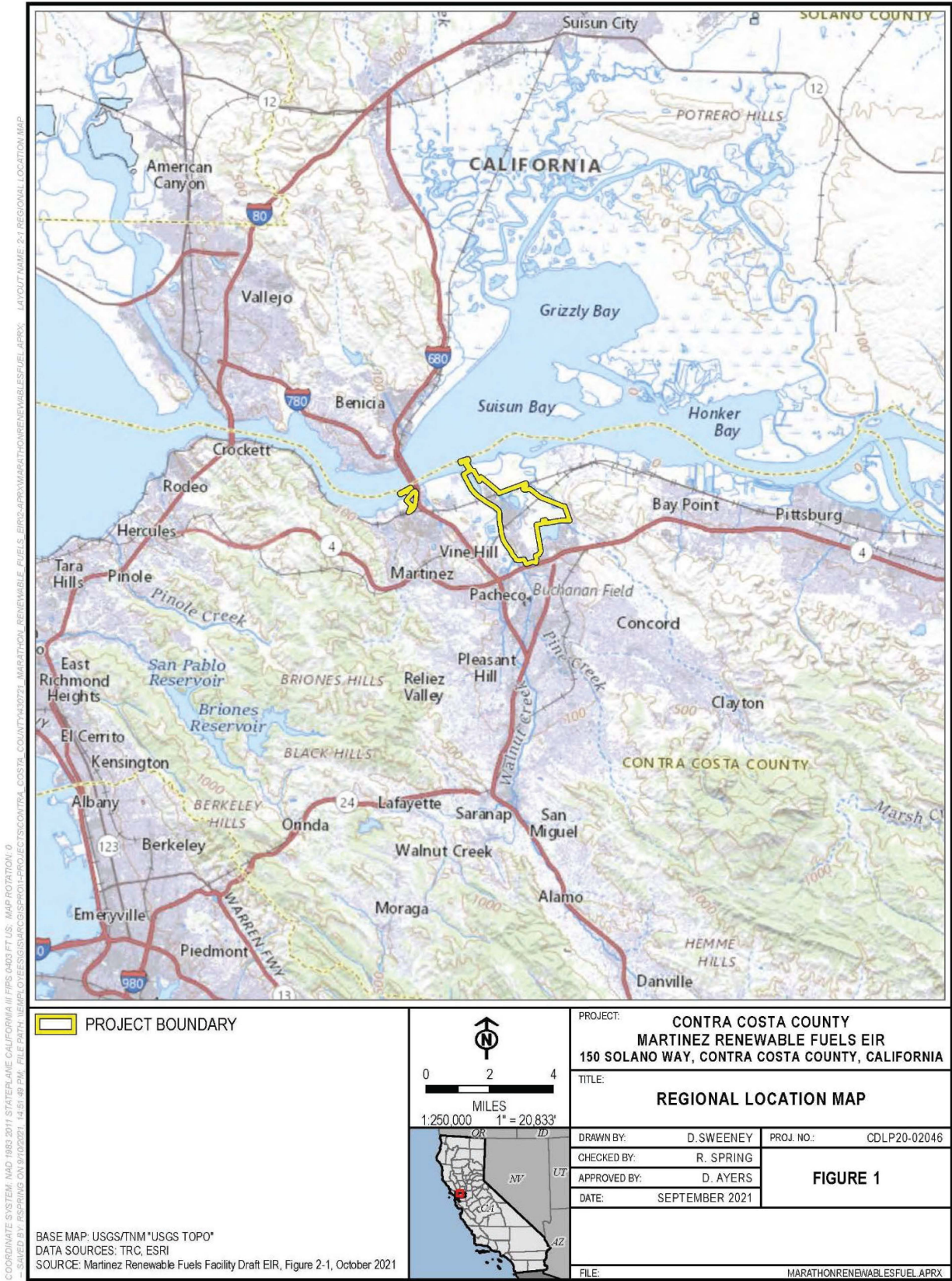
The Facility is located at 150 Solano Way, Martinez, CA (see Figure 1). The site is developed with petroleum refining equipment, renewable fuels processing equipment, and distribution terminals, as well as related infrastructure, pipelines and utilities. The site consists of approximately 2,000 acres of property, most of which is designated by the County General Plan as Heavy Industrial for the land use. In addition, approximately 100 acres of undeveloped area east of the Refinery tanks, plus the undeveloped acreage outside and east of the Refinery are designated Parks and Recreation and Open Space. Approximately 93 acres of the on-site recreational fields is designated Light Industrial.

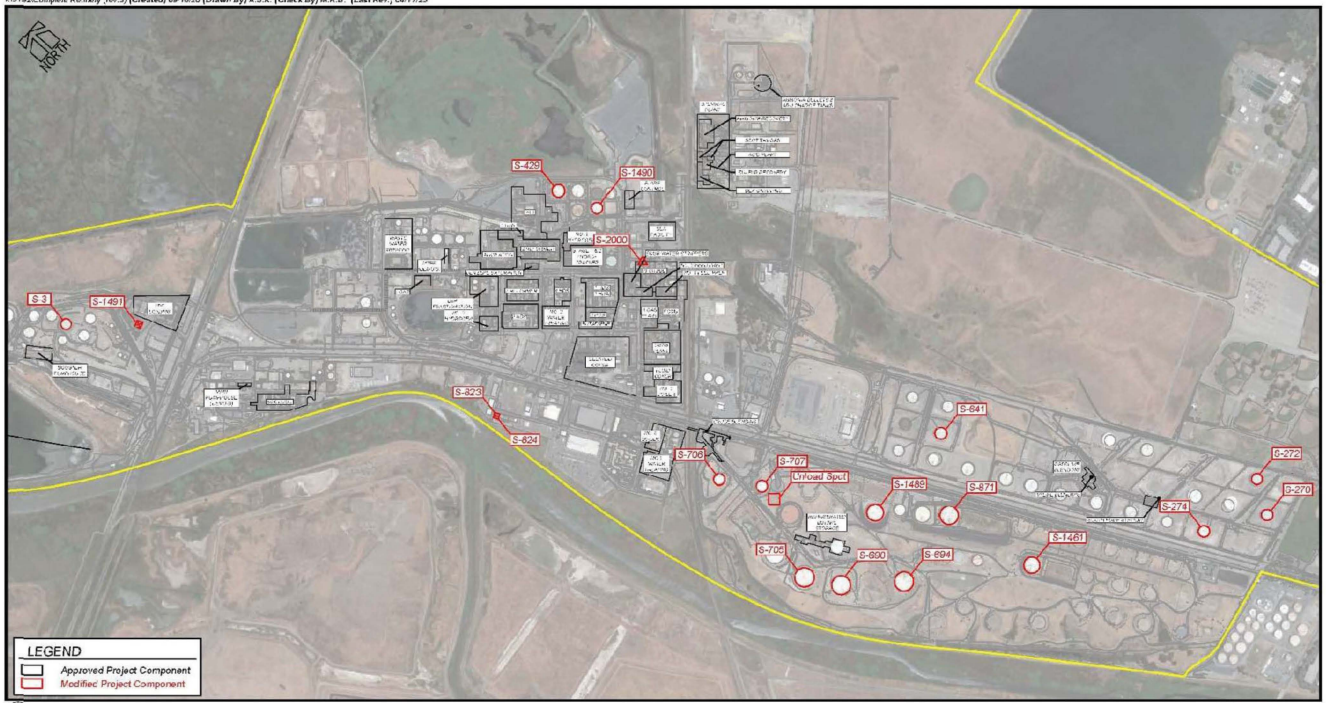
The Facility, including the 18 storage tanks (i.e., S-690, S-694, S-705, S-706, S-272, S-274, S-429, S-641, S-707, S-1461, S-871, S-1489, S-1490, S-1491, S-3, S-270, S-823, and S-824), the thermal oxidizer, truck offloading spot, and vacuum truck unloading area are on lands designated by the County General Plan as Heavy Industrial (See Figure 2).

Regional access to the site is provided via Interstate Highway 680 and State Route 4. Local access to the Refinery is provided by Waterfront Road, Imhoff Drive/Arnold Industrial Way, and Solano Way.

Approximate coordinates are 38°01'53"N 122°04'27"W.

ADDENDUM TO THE FINAL EIR FOR THE MARTINEZ RENEWABLE FUELS PROJECT





Environmental Audit, Inc.

CURRENT PLOT PLAN
MARATHON MARTINEZ REFINERY
150 Solano Way
Martinez, CA 94553

0 900'

6.0 IMPACT ANALYSIS

The following sections present a summary of the impact analyses contained in the Final EIR for the Renewable Fuels Project components plus the analysis of the proposed modifications to the Renewable Fuels Project.

As required by CEQA Guidelines Section 15125, the Final EIR included a description of the physical environmental conditions, also referred to as the existing setting or baseline, within the vicinity of the Renewable Fuels Project as they existed at the time the February 2021 NOP was published. Specifically, the baseline was identified in the Final EIR as the 5- year period between October 1, 2015 and September 30, 2020, as it represents the variation in Refinery operations, including production as well as refinery turnarounds.

This Addendum includes an evaluation of the same 19 environmental topic areas evaluated in the Final EIR. Detailed analyses of the 14 environmental topic areas fully evaluated in the Final EIR for which there were less than significant impacts or significant are evaluated in Subsections 6.1 through 6.14. The remaining five environmental topic areas that were determined to have no significant impacts in the Final EIR are examined in Section 7.0 of this Addendum. The below analyses provide substantial evidence showing that changes to the Approved Project as reflected in the Modified Project are not expected to trigger any conditions identified in CEQA Guidelines Section 15162 that would require the preparation of a subsequent EIR because: 1) the proposed revisions do not create any new significant adverse environmental impacts; 2) the proposed revisions do not make substantially more severe any existing significant adverse environmental impacts; and 3) there is no new information regarding additional feasible mitigation measures alternatives. Thus, a subsequent EIR or a supplement to the EIR as reflected in Guidelines sections 15162 and 15163, respectively, are not appropriate.

6.1 Aesthetic Resources

6.1.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on Aesthetic Resources would be less than significant.

The Martinez Facility is not in a location considered to be a scenic vista based on the Contra Costa County General Plan. The Approved Project would not impact views of the Carquinez Strait nor the scenic ridgeways in Contra Costa County. The Martinez Facility has low visual quality and sensitivity. The EIR for the Renewable Fuels Project determined less than significant impacts because no scenic highways are in the vicinity of the Facility. The Approved Project does not add new structures that would be visible outside the Facility, and it would not change or affect the visual character of the Facility. Further, the Approved Project does not conflict with any applicable zoning or regulations and policies governing scenic quality at the Site. The Approved Project is consistent with the industrial uses envisions for the H-1 District zoning of the site and surrounding area.

Finally, the Approved Project would result in the construction of several new process units,

including the Pretreatment Unit, which may require lighting for nighttime operations. The new units would be installed in the operating portions of the Refinery, which are already lighted for nighttime operations and would not be expected to result in a noticeable change to the overall lighting at the Refinery. Based on the above, the Approved Project impacts on aesthetic resources were determined to be less than significant.

6.1.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required for the 18 storage tanks or the thermal oxidizer. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe.

The Modified Project would not add any new structures that would be visible outside of the Facility. The new pipe would be located at ground level within and near the storage tanks and will not be visible outside the Facility. Therefore, the Modified Project would not change or affect the visual character of the Facility. Further, the Facility is currently lighted for nighttime operations and no new light sources would be required.

6.1.3 Conclusions

As discussed above, the Modified Project will have no impact on aesthetic resources. Therefore, the Modified Project would not have any new or substantially more severe impacts related to aesthetics than the Approved Project and would not alter the conclusions of the Final EIR, and no significant adverse impacts to aesthetics are expected.

6.2 Air Quality

6.2.1 Summary of Final EIR (Approved Project)

Construction Emissions

Construction of the Renewable Fuels Project would generate emissions from construction equipment (ROG, NO_x, PM₁₀/PM_{2.5}) and fugitive dust from material handling and vehicle traffic. See Table 1 below for a comparison of the average daily unmitigated on-site construction-related emissions to the Bay Area Air District CEQA thresholds. The on-site construction emissions were estimated to be less than the significance thresholds as shown in Table 1.

**TABLE 1
Construction Criteria Pollutant Emissions
for the Approved Project
(lb/day)**

Source Category	NO_x	SO₂	CO	ROG	PM₁₀	PM_{2.5}
Martinez Renewable Fuels	43.67	0.19	758.46	42.50	11.60	4.37
Avon Rail Extension	0.68	0.00	1.43	0.14	0.25	0.11
Avon Marine Oil Terminal Upgrades	0.41	0.00	3.55	0.94	0.09	0.02
Amorco Marine Oil Terminal Upgrades	0.73	0.00	3.17	3.57	0.10	0.04
Off-Site Construction Activities	7.35	0.03	11.91	0.70	2.02	0.43
Approved Project Impact:	52.84	0.23	778.53	47.86	14.06	4.97
Bay Area Air District CEQA Threshold (lb/day)	54	NA	NA	54	82	54
Significant:	No	No	No	No	No	No

lb/day = pounds per day

See May 2022 Final EIR, Tables 3.3-9, 3.3-10, and 3.3-11 for detailed information.

The Final EIR also included offsite construction emissions in the San Joaquin Valley and determined that construction emissions would be less than significant. The Modified Project would not alter construction activities outside of the Bay Area and those impacts are not discussed further herein.

Operation Emissions

The Approved Project resulted in large emission reductions of all criteria air pollutants from both stationary and mobile sources. As shown in Tables 2 and 3, emissions from operation of the Approved Project would be below the Bay Area Air District CEQA significance thresholds and there would be no impact on localized CO concentrations.

**TABLE 2
Operational Criteria Pollutant Emissions for the Approved Project (lbs/day)**

Source	Approved Project Emissions Changes (lbs/day)					
	NO_x	SO₂	CO	POC/ROG	PM₁₀	PM_{2.5}
Stationary Sources	-1,783.93	-1,375.75	-3,354.26	-6,849.98	-1,212.47	-1,173.07
Mobile Sources	-1,336.59	-2,197.32	-41.89	-84.03	-160.82	-57.40
Off-Site Stationary Sources	52.94	16.90	10.57	6.14	1.81	1.81
Approved Project Total	-3,067.58	-3,556.16	-3,385.58	-6,927.86	-1,371.47	-1,228.67
Bay Area Air District Threshold	54	NA	NA	54	82	54

lb/day = pounds per day

See May 2022 Final EIR, Table 3.3.14 for detailed information.

TABLE 3

Operational Criteria Pollutant Emissions for the Approved Project (tons/yr)

Source	Approved Project Emissions Changes (tons/year)					
	NOx	SO ₂	CO	POC/ROG	PM ₁₀	PM _{2.5}
Bay Area Air District						
Stationary Sources	-304.89	-254.47	-592.75	-80.44	-220.27	-213.08
Mobile Sources	-243.85	-401.00	-6.91	-15.31	-28.79	-10.39
Off-Site Stationary Sources	9.66	3.08	1.93	1.12	0.33	0.33
Approved Project Total	-539.08	-652.39	-597.73	-94.63	-248.73	-223.14
Bay Area Air District Threshold	10	NA	NA	10	NA	NA
San Joaquin Valley Air Pollution Control District (tons/year)						
Stationary Sources						
Mobile Sources	26.237	0.04	17.36	2.76	0.95	0.95
Off-Site Stationary Sources	0.53	1.23	9.91	7.07	0.33	0.33
Approved Project Total	26.8	1.27	27.27	9.83	1.28	1.28
SJVAPCD Threshold	10	27	100	10	15	15

lb/day = pounds per day
 See May 2022 Final EIR, Table 3.3.15 for detailed information.

However, as shown in Table 3 above, NOx emissions from marine vessels and rail traffic in the San Joaquin Valley Air Pollution Control District (SJVAPCD) would exceed significance thresholds. In addition, as shown in Table 3.3-16 of the Final EIR, NOx emissions from rail traffic in Placer would also exceed the Placer County significance thresholds and were considered significant. Therefore, the impact from NOx emissions in SJVAPCD and Placer County would be significant and unavoidable.

Health Risk Assessment

Table 4 below shows the maximum Approved Project-related increase in health risk for residential, off-site workplace and sensitive receptors. The analysis included both stationary and mobile sources. The cancer and chronic risks are negative indicating a reduction in risk at all modeled receptors. The Approved Project-related increase in acute risk is less than the Bay Area Air District CEQA threshold for all health risk categories and, therefore, less than significant impacts.

**TABLE 4
Summary of Approved Project Health Risks**

Location	Risk/Hazard Index Value	Bay Area Air District CEQA Threshold
Maximum Cancer Risk (per million)	-0.55	10
Maximum Chronic Hazard Index	-0.00220	1.0
Acute Index:		
Maximum Hazard Index	0.336	1.0
Maximum Residential Receptor	0.097	1.0
Maximum Offsite Workplace Receptor	0.107	1.0
Maximum Sensitive Receptor	0.074	1.0

See May 2022 Final EIR, Table 3.3.17 for detailed information.

Cumulative Health Risk

Table 5 shows the results of the cumulative health risk assessment for cancer risk, chronic non-cancer risk, and exposure to PM_{2.5} emissions for the Approved Project. The HRA included both stationary and mobile sources from the Approved Project, as well as sources within 1,000 feet of the Project Site⁴. The maximum cumulative cancer risk for both resident and worker receptors was less than the cumulative significance threshold of 100 in one million. The cumulative chronic risk was less than the cumulative significance threshold of 10.0 at all receptor locations. Cumulative cancer and chronic risk of the Approved Project were considered less than significant.

The maximum annual average PM_{2.5} concentration at both residential and worker receptors exceeded the significance threshold of 0.8 µg/m³. PM_{2.5} concentrations were highest in the immediate vicinity of highways and around the cement and aggregate materials handling operations located to the southwest of the Martinez Facility. The highest residential receptor was located immediately adjacent to Interstate Highway 680, and nearly all PM_{2.5} at that receptor was due to highway mobile source emissions. The highest worker receptor was at the Valley Relocation & Storage Moving Company located across Highway 4 from the cement and aggregate materials handling operations. Over 95 percent of the PM_{2.5} at this receptor was from the two materials handling operations. The impact at other residential and worker receptors was below the threshold of 0.8 µg/m³. It is important to note that Approved Project PM_{2.5} concentrations are negative (pre-Project PM_{2.5} concentrations exceed post-Project PM_{2.5} concentrations); therefore, implementation of the Approved Project would reduce overall PM_{2.5} concentrations. Emissions from the non-project sources surrounding the Facility result in PM_{2.5} concentrations that are above the significance thresholds and the cumulative PM_{2.5} impacts were considered significant and unavoidable.

⁴ Refer to definition of Project Site in Contra Costa County, Draft EIR for the Marathon Martinez Renewable Fuels Project, October 2021.

**TABLE 5
Summary of Approved Project Cumulative Health Risks**

Location	Risk/Hazard Index Value	Bay Area Air District CEQA Cumulative Threshold
Maximum Residential Cancer Risk (per million)	89.7	100
Maximum Worker Cancer Risk (per million)	93.1	100
Maximum Chronic Hazard Index	0.46	10.0
Annual Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)		
Maximum Residential PM2.5 Exposure	1.3	0.8
Maximum Worker PM2.5 Exposure	27.9	0.8

See May 2022 Final EIR, Table 3.3.18 for detailed information.

6.2.2 Impacts of the Modifications to the Project

Construction Emissions

The only construction associated with the Modified Project is related to the installation of approximately 300 feet of piping and the replacement of the existing piping and equipment associated with the offloading spot. The construction is expected to occur over a three-week period with a crew of approximately 8-16 people. Construction emissions include off-road construction equipment, on-road worker commuter vehicles and construction vehicles, and earthmoving work for footings and foundations. No paving or painting is proposed. The construction emissions associated with the Modified Project are shown in Table 6.

The construction activities associated with the Renewable Fuels Project have been completed, except for those associated with the Modified Project components. As shown in Table 6, the construction emissions would be much less than those evaluated in the Final EIR, and well below the Bay Area Air District CEQA significance thresholds. In addition, when combined with the Approved Project, the Modified Project reduces the average daily construction emissions. Therefore, the Modified Project would not have any new or substantially more severe impacts related to construction than the Approved Project and would not alter the conclusions of the Final EIR.

**TABLE 6
Construction Criteria Pollutant Emissions for the Modified Project
(lb/day)**

Source Category	NOx	SO₂	CO	ROG	PM10	PM2.5
Off-road Diesel Construction Equipment	15.45	0.03	27.14	1.80	0.68	0.62
On-road Motor Vehicles	0.45	0.01	0.21	0.02	0.41	0.07
Fugitive PM from Material Movement	--	--	--	--	<0.01	<0.01
Modified Project Impact:	15.90	0.04	27.35	1.82	1.08	0.70
Approved Project Impact⁽¹⁾	52.84	0.23	778.53	47.86	14.06	4.97
Adjusted Project Impact⁽²⁾	51.63	0.22	746.73	16.75	10.64	3.19
Bay Area Air District CEQA Threshold (lb/day)	54	NA	NA	54	82	54
Significant:	No	No	No	No	No	No

lb/day = pounds per day

See Appendix A.2 for detailed calculations.

- (1) Approved Project Impact as shown in Table 1 above. The construction activities and related emissions associated with the Approved Project have been completed.
- (2) Based on the inclusion of the Modified Project construction emissions with the Approved Project construction emissions. As shown, the Modified Project does not create greater average daily emissions than previously presented for the Approved Project.

Operation Emissions

The effects on criteria pollutant emissions (i.e., nitrogen oxides (NOx), sulfur dioxide (SO₂), carbon monoxide (CO), reactive organic gases (ROG), particulate matter less than 10 microns in diameter (PM10), and particulate matter less than 2.5 microns in diameter (PM2.5)) for the Modified Project have been determined by assessing the change in emissions from the pre-project to the post-project. The approach for each of the Modified Project components is explained below:

- **Storage Tanks:** For the 18 storage tanks (i.e., S-690, S-694, S-705, S-706, S-272, S-274, S-429, S-641, S-707, S-1461, S-871, S-1489, S-1490, S-1491, S-3, S-270, S-823, and S-824), the pre-project emissions are based on the same timeframe as the May 2022 FEIR published 5-year average.
- **Thermal Oxidizer:** The thermal oxidizer was a new source associated with the Martinez Renewable Fuels Project and had its environmental impacts recently evaluated by the Final EIR as a 1.91 mmBtu/hr source. Nonetheless, Tesoro has conservatively assumed that the thermal oxidizer had no pre-project emissions. Accordingly, Tesoro compared zero amount of pre-project emissions to the amount of emissions based on a 2.2 mmBtu/hr

heating value (rather than comparing pre-project and post-project emissions at 1.91 mmBtu/hr and 2.2 mmBtu/hr, respectively).

- **Unloading Spot:** The existing truck offloading spot has previously been used to unload trucks at the Facility; however, for purposes of this analysis, Tesoro has conservatively evaluated the truck activity associated with the Modified Project as new deliveries of renewable feedstock with no pre-project activity (i.e., a conservatively worst-case evaluation of an additional 25 trucks per day).
- **Vacuum Truck Unloading:** Vacuum truck activities have occurred at the Facility for decades (approximately 2,500 trucks per year). No change in activity is expected, so emissions are expected to be similar. Travel distance between the crude unit and the area within Tract 4 was included as additional truck miles and the associated emissions were included for the Modified Project.

Emissions from these activities were calculated in accordance with Bay Area Air District and U.S. Environmental Protection Agency (EPA) methodologies. The Modified Project is making minor revisions to allow for delivery of renewable feedstocks from local sources (the Bay Area) via truck. When the renewable feedstock is delivered by truck, less renewable feedstock would come by marine vessel/rail. Air emission calculations included additional diesel particulate emissions for the 25 trucks associated with the renewable diesel feed unload spot. In order to provide a conservative analysis, it was assumed that these 25 trucks travel from the San Joaquin Valley area to the Facility, so emission calculations include both on-site as well as off-site travel (see Table A.1-5a of Appendix A for further details). In addition, the emissions associated with the revised marine vessel and rail transit emissions based on a redistribution/reduction of marine vessel and rail traffic associated with trucks delivering renewable feedstock to the unload spot (rather than only by marine vessel or rail) were also calculated. The analysis indicates that when feedstocks are transported via truck versus marine vessel/rail, emissions would be less. See Appendix B and its Attachment F for further details.

Therefore, the potential increases in air emissions from mobile sources associated with the Modified Project are primarily limited to the Bay Area. The emission increases in the San Joaquin Valley area were limited to 630 miles per day. No increases in emissions from mobile sources is expected in other air districts.

As shown in Tables 7 and 8 respectively, the Modified Project's daily and annual emissions, in combination with the emissions from the previously Approved Project (shown as "Total Modified Project Impact"), are both below the Bay Area Air District CEQA significance thresholds.

As shown in Table 8, the emission increases in the SJVAPCD would be minor. Consistent with the Final EIR, NO_x emissions from mobile sources (primarily marine vessels and rail traffic) in the SJVAPCD would exceed significance thresholds and remain significant. The Modified Project would add 0.91 ton per year of NO_x emissions and, therefore, would not have any new or substantially more severe impacts related to increases in criteria pollutant emissions than the Approved Project and would not alter the conclusions of the Final EIR.

TABLE 7
Summary of Total Project Daily Criteria Pollutant Emissions
for the Modified Project
(lbs/day)

Source Category	NOx	SO ₂	CO	ROG	PM10	PM2.5
Bay Area Air District Pre-Project Emissions						
Storage Tanks	0.00	0.00	0.00	61.48	0.00	0.00
Thermal Oxidizer	0.00	0.00	0.00	0.00	0.00	0.00
Truck Offloading	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Project Total:	0.00	0.00	0.00	61.48	0.00	0.00
Bay Area Air District Post-Project Emissions						
Storage Tanks	0.00	0.00	0.00	77.54	0.00	0.00
Thermal Oxidizer	9.05	9.36	12.67	0.28	0.39	0.39
Truck Offloading	11.16	0.07	3.88	0.34	1.74	0.34
Post-Project Total:	20.20	9.43	16.56	78.16	2.13	0.74
Modified Project Impact:	20.20	9.43	16.56	16.68	2.13	0.74
Impact from Approved Project	-3,067.58	-3,556.16	-3,385.58	-6,927.86	-1,371.47	-1,228.67
Total Modified Project Impact	-3,047.38	-3,546.73	-3,369.02	-6,911.18	-1,369.34	-1,227.93
Bay Area Air District CEQA Threshold (lb/day)	54	NA	NA	54	82	54
Significant:	No	No	No	No	No	No

lb/day = pounds per day
 lb/day = pounds per day
 See Appendix A.1 for detailed calculations.

It should be noted that when the thermal oxidizer is offline, emissions would continue to go to the fuel gas system. Flaring would occur only during emergencies as a backup to the fuel gas system. Emergency flaring would continue to be consistent with the Flare Management Plan and reporting of flaring emissions would be required under Bay Area Air District Rule 12-12 and 12-15.

Therefore, there will be no increase in flare capacity requirements, and actual flaring rates are not expected to increase compared to historical operations as a petroleum refinery. In fact, flaring at the Facility is expected to be reduced due to the shutdown of large process units, such as the Delayed Coker Unit (S-1510), Fluid Catalytic Cracking Unit (S-802), No. 4 Gas Plant (S-955 through S-960), and Alkylation Unit (S-1009). Ammonia Plant Flare (S-1013) and 50 Unit Flare (S-1524) have been shut down as part of the Approved Project. East Air Flare (S-854), Emergency Flare (S-992), and Coker Flare (S-1517) have firms limits and the Facility will continue to operate within these limits. North Steam Flare (S-944), South Steam Flare (S-945), and West Air Flare (S-1012) have grandfathered limits listed in the Facility’s Title V permit and will continue to operate within these limits.

TABLE 8
Summary of Total Project Annual Criteria Pollutant Emissions
for the Modified Project
(tons/year)

Source Category	NOx	SO ₂	CO	ROG	PM10	PM2.5
Bay Area Air District Pre-Project Emissions (lb/year)						
Storage Tanks	0.00	0.00	0.00	22,439.28	0.00	0.00
Thermal Oxidizer	0.00	0.00	0.00	0.00	0.00	0.00
Truck Offloading	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Project Total:	0.00	0.00	0.00	22,439.28	0.00	0.00
Bay Area Air District Post-Project Emissions(lb/year)						
Storage Tanks	0.00	0.00	0.00	28,301	0.00	0.00
Thermal Oxidizer	3,302.52	3,416.40	4,625.28	103.92	143.60	143.60
Truck Offloading	4,702.16	25.26	1,417.33	123.58	634.43	125.38
Post-Project Total:	7,374.68	3,441.66	6,042.61	28,528.41	778.03	268.98
Modified Project Impact (lb/year):	6,653.49	3,435.86	4,419.23	6,048.60	640.35	241.72
Modified Project Impact (ton/year):	3.69	1.72	3.02	3.04	0.39	0.13
Impact from Approved Project (tons/year):	-539.08	-652.39	-597.73	-94.63	-248.73	-223.14
Total Modified Project Impact	-535.39	-650.67	-594.71	-91.59	-248.34	-223.01
Bay Area Air District CEQA Threshold (tons/year)	10	NA	NA	10	15	10
Significant:	No	No	No	No	No	No
SJVAPCD Pre-Project Emissions (lbs/year)						
Stationary Sources	0	0	0	0	0	0
Mobile Sources	0	0	0	0	0	0
Off-Site Stationary Sources	0	0	0	0	0	0
SJVAPCD Post-Project Emissions (lbs/year)						
Stationary Sources	0	0	0	0	0	0
Mobile Sources	1,826.14	9.14	1,037.60	80.83	205.60	40.79
Off-site Stationary Sources	0	0	0	0	0	0
Modified Project Impact (lbs/year)	1,826.14	9.14	1,037.60	80.83	205.60	40.79
Modified Project Impact (tons/year)	0.91	0.00	0.52	0.04	0.1	0.02
Impact from Approved Project (tons/year)	26.80	1.26	27.27	9.83	1.27	1.27
Total Modified Project Impact (tons/year)	27.72	1.27	27.79	9.87	1.38	1.29
SJVAPCD Threshold	10	27	100	10	15	15
Significant	Yes	No	No	No	No	No

lb/year = pounds per year
 See Appendix A.1 for detailed calculations.

As shown in Table 3 and Table 8 above, NOx emissions from marine vessels and rail traffic in the SJVAPCD would exceed significance thresholds. In addition, as shown in Table 3.3-16 of the Final EIR, NOx emissions from rail traffic in Placer would also exceed the Placer County significance thresholds and were considered significant. Therefore, the impacts from NOx emissions in SJVAPCD and Placer County would be significant and unavoidable. However, impacts in Placer County will not be changed/affected by the Modified Project, and impacts in SJVAPCD will not be substantially more severe than anticipated by the Final EIR.

Based on the above, the Modified Project would not have any new or substantially more severe impacts related to criteria pollutants than the Approved Project and would not alter the conclusions of the Final EIR.

Health Risk Assessment

Table 9 below shows the maximum Modified Project-related increase in health risk for residential, off-site workplace and sensitive receptors. The analysis included both stationary and mobile sources. The results of the HRA show that the Modified Project impacts continue to be well below the Bay Area Air District CEQA thresholds. The HRA for the Approved Project cancer and chronic risks continue to be negative indicating a reduction in risk at all modeled receptors. Acute risk, which was evaluated based on Modified Project emissions, was well below thresholds at every potential receptor. Therefore, the Modified Project would not have any new or substantially more severe impacts related to cancer, chronic, or acute health risks than the Approved Project and would not alter the conclusions of the Final EIR.

**TABLE 9
Summary of Modified and Approved Project Health Risks**

Location	Modified Project Risk/Hazard Index Value	Approved Project Risk/Hazard Index Value	Bay Area Air District CEQA Threshold
Maximum Cancer Risk (per million)	-1.95	-0.55	10
Maximum Chronic Hazard Index	-0.00399	-0.00220	1.0
Acute Index:			
Maximum Hazard Index	0.337	0.336	1.0
Maximum Residential Receptor	0.099	0.097	1.0
Maximum Offsite Workplace Receptor	0.109	0.107	1.0
Maximum Sensitive Receptor	0.077	0.074	1.0

See Appendix B for detailed calculations.

PM2.5 Modeling Analysis

AERMOD was used to calculate the average PM2.5 concentrations over the 5 years of meteorological data used in the modeling for Approved Project and Modified Project sources. Modeling results were similar to the prior modeling, PM2.5 concentrations were greater for the baseline case at all receptors. In the Approved Project case, the PM2.5 concentrations ranged between -0.03 µg/m³ and -39.3 µg/m³. In the Modified Project modeling, the difference in the 5-year average PM2.5 concentrations ranged between -0.03 ug/m3 and -42.6 ug/m3. Model results are summarized in Table 10 below.

TABLE 10
Summary of Modified Project PM2.5 Analysis

Receptor Description	PM2.5 Concentration Change (µg/m ³)		
	Approved Project Modeling Result	Modified Project Modeling Result	Bay Area Air District Threshold
Smallest change in PM2.5 Conc	-0.03	-0.03	0.3
Largest change in PM2.5 Conc.	-39.3	-42.6	0.3

See Appendix B for detailed calculations.

The modeling for the Modified Project shows that the health risk impacts associated with PM2.5 emissions from the Renewable Fuels Project will be well below the Bay Area Air District CEQA Threshold of Significance from PM2.5. Therefore, the Modified Project would not have any new or substantially more severe impacts related to PM2.5 than the Approved Project and would not alter the conclusions of the Final EIR.

Cumulative Health Risk

Table 11 shows the results of the cumulative health risk assessment for cancer risk, chronic non-cancer risk, and exposure to PM2.5 emissions. The HRA included both stationary and mobile sources from the Modified Project, as well as sources within 1,000 feet of the Martinez Facility’s fence line (See Appendix B, Section 5.0 for further details). The maximum cumulative cancer risk for both resident and worker receptors were less than the cumulative significance threshold of 100 in one million. The cumulative chronic risk was less than the cumulative significance threshold of 10.0 at all receptor locations. Cumulative cancer and chronic risk of the Approved Project were considered less than significant.

**TABLE 11
Summary of Modified Project Cumulative Health Risks**

Location	Non-Project Risk/Hazard Index Value	Modified Project Risk/Hazard Value	Total Cumulative Risk/Hazard Value	Bay Area Air District CEQA Cumulative Threshold
Maximum Residential Cancer Risk (per million)	91.03	-4.33	86.70	100
Maximum Worker Cancer Risk (per million)	96.00	-9.53	86.46	100
Annual Average PM2.5 Concentration (ug/m3)				
Maximum Residential PM2.5 Exposure	1.76	-0.41	1.35	0.8
Maximum Worker PM2.5 Exposure	28.89	-1.04	27.85	0.8

See May 2022 Final EIR, Table 3.3.18 for detailed information.

As with the Approved Project, the maximum annual average PM2.5 concentration at both residential and worker receptors exceeded the significance threshold of 0.8 µg/m³ for cumulative impacts. PM2.5 concentrations continue to be highest in the immediate vicinity of highways and around the cement and aggregate materials handling operations located to the southwest of the Martinez Facility. Thus, as noted, the Final EIR concluded the impact was significant and unavoidable. The highest residential receptor was located immediately adjacent to Interstate Highway 680, and nearly all PM2.5 at that receptor was due to highway mobile source emissions. The highest worker receptor was at the Valley Relocation & Storage Moving Company located across Highway 4 from the cement and aggregate materials handling operations. Over 95 percent of the PM2.5 at this receptor was from the two materials handling operations. The impact at other residential and worker receptors was below the threshold of 0.8 µg/m³. It is important to note that the Modified Project PM2.5 concentrations are negative (pre-Project PM2.5 concentrations exceed post-Project PM2.5 concentrations). Therefore, implementation of this Modified Project would continue to reduce overall PM2.5 concentrations in the vicinity of the Project Site. Therefore, the Modified Project would not have any new or substantially more severe impacts related to cumulative health risk than the Approved Project and would not alter the conclusions of the Final EIR.

6.3 Biological Resources

6.3.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on biological resources would be less than significant after mitigation, with the exception that, in the event of a spill in San Francisco Bay, biological impacts would be significant and unavoidable.

Construction impacts were considered to be potentially significant as numerous special-status plant and wildlife species have the potential to occur near the marine terminals. In-water work to repair wharf facilities, pipeline modifications, vibration, noise and disruption associated with construction of the Approved Project would have the potential to impact these species. Therefore, mitigation measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, BIO-1e, BIO-1f, BIO-1g, BIO-1h, BIO-1i, BIO-1j, BIO-1k, BIO-2, and BIO-3 have been identified to reduce potential impacts to special-status wildlife, sensitive communities and migratory birds to a less-than-significant level.

The Approved Project impacts on biological resources associated with operation activities were determined to be less than significant due to increased fill area and bay cover, and deposition or erosion of sensitive habitats along the vessel paths. The Approved Project impacts on biological resources as a result of noise from increased vessels were determined to be less than significant, following implementation of mitigation measures BIO-7a, and BIO-7b. In addition, the Approved Project could introduce invasive nonindigenous aquatic species to the San Francisco Bay Estuary. Mitigation Measure 9a was imposed to reduce these impacts.

The Approved Project impacts on biological resources in the event of an oil spill and due to invasive nonindigenous aquatic species were determine to be significant and unavoidable, following mitigation.

6.3.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer. Construction activities would be limited to the replacement of and existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. The operating portions of the Facility are void of biological resources to minimize fire and safety hazards.

Construction activities associated with the Modified Project would not add any new structures outside of the Refinery or in the vicinity of the marine terminal. The new pipe would be located at ground level within and near the storage tanks and in areas where there is containment so that incidental spills will not migrate outside the Facility. Therefore, the Modified Project would not change or affect biological resources at the Facility.

6.3.3 Conclusions

As discussed above, the Modified Project will have no impact on biological resources. Therefore, the Modified Project would not have any new or substantially more severe impacts related to biological resources than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on Biological Resources due to construction

activities near the marine terminals, the potential impacts of oil spills, and due to invasive nonindigenous aquatic species would remain significant, following mitigation.

6.4 Cultural and Tribal Culture Resources

6.4.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on cultural and tribal cultural resources would be less than significant after mitigation.

Based on an archaeological record search and previous surveys, there are no known historical or cultural resources in the Approved Project work area. Six cultural resources were identified within the Facility and 26 previously recorded resources were identified within a one-mile radius. Of the resources identified, four consist of various railroads that traverse the Project Site and none of these segments are eligible for listing on the National Register of Historic Places and none will be impacted by the Approved Project. The Project Site is completely developed and there is a high degree of disturbance on the property. Further there are no sites currently listed on the National Register, California Register, Contra Costa County Historic Resources Inventory, or the list of California Historical Landmarks within one mile of the Project Site.

There is the potential to encounter previously unidentified buried archaeological and/or tribal cultural resources during construction activities. Mitigation measures CR-1 and TCR-1 were imposed to minimize impacts on cultural and tribal cultural resources to less than significant.

6.4.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. The Project Site is completely developed and has been disturbed.

There is the potential to encounter previously unidentified buried archaeological and/or tribal cultural resources during construction activities. Mitigation measures CR-1 and TCR-1 will continue to be imposed on the Modified Project to minimize impacts on cultural and tribal cultural resources to less than significant.

6.4.3 Conclusions

As discussed above, the Modified Project impacts on cultural and tribal cultural resources will continue to be less than significant. Therefore, the Modified Project would not have any new or substantially more severe impacts related to cultural or tribal cultural resources than the Approved

Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on cultural and tribal cultural resources would remain less than significant, following mitigation.

6.5 Energy

6.5.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on energy resources would be less than significant and no mitigation measures were required.

The Approved Project changed the use of the Refinery from petroleum-based fuel processing to renewable feedstock processing, which was expected to decrease the intensity of energy use at the Project Site, as a number of refining units were shut down. The Facility reduced the amount of feedstock processed from 161,000 barrels per day to 48,000 barrels per day, reducing the processing activities at the Facility. The Approved Project was expected to decrease the use of electricity and natural gas. No increase in operational energy consumption would occur, so the Approved Project would be consistent with regional and state energy reduction strategies. The Approved Project allowed the Martinez Facility to help meet the growing demand in California for renewable fuels, due to implementation of the Low Carbon Fuel Standard (LCFS). The LCFS was designed to reduce the State's reliance on petroleum-based fuels and encourage the use of less carbon-intensive fuels in the transportation sector. The Approved Project impacts on energy were determined to be less than significant.

6.5.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer. The Modified Project is not expected to result in an increase in electrical usage as the equipment changes do not involve the use of electricity.

The Modified Project would result in an increase of 6.96 mmBtu/day of natural gas ($0.29 \text{ mmBtu/hr} \times 24 \text{ hrs/day} = 6.96 \text{ mmBtu/day}$) since the final as built thermal oxidizer has a slightly higher heating value (1.91 vs 2.2 mmBtu/hr). The Approved Project evaluated in the Final EIR estimated that the conversion of the Refinery to using renewable feedstocks would result in a reduction of approximately 29,000 mmBtu/day. Therefore, the Modified Project would still result in a reduction in natural gas and, therefore, reduction in energy use.

The Modified Project would continue to allow the Martinez Facility to produce up to 48,000 bpd of renewable fuels, complying with the goals of the LCFS program and continuing to reduce the

State's reliance on petroleum-based fuels and encourage the use of less carbon-intensive fuels in the transportation sector.

No increase in operational energy consumption would occur, so the Modified Project would not interfere with energy consumption, nor would long-term energy consumption exceed anticipated growth in the area.

6.5.3 Conclusions

As discussed above, the Modified Project impacts on energy will continue to be less than significant. The Modified Project will continue to result in a reduction in natural gas and electricity use. Therefore, the Modified Project would not have any new or substantially more severe energy impacts than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on energy resources would remain less significant prior to mitigation.

6.6 Geology and Soils

6.6.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on Geology and Soil would be less than significant and no mitigation measures were required.

The Martinez Facility is located in a region defined by a number of fault zones and susceptible to severe ground shaking, in the event of an earthquake. Ground shaking, liquefaction, lateral spreading and expansive soils have the potential to directly or indirectly cause adverse impacts at the Facility, including fires, explosions, and air quality impacts. A Mitigation Measure GEO-2 was imposed that required a final geotechnical report that provides recommendations for seismically and structurally sound new structures, equipment and foundations in accordance with the California Building Code standards prior to issuance of grading or building permits.

The Approved Project impacts associated with liquefaction, landslides, soil erosion, collapse, and paleontological resources were determined to be less than significant and no further mitigation measures were required.

6.6.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of

the Renewable Fuels Facility. The Project Site is completely developed and has been disturbed. No other major construction activities are required to implement the Modified Project. No new structures or foundations would be required. Therefore, due to the limited development associated with the Modified Project, no additional impacts on geology or soils would be expected.

6.6.3 Conclusions

As discussed above, the Modified Project impacts on geology and soils will continue to be less than significant. The Modified Project is not expected to require substantial construction activities. Therefore, the Modified Project would not have any new or substantially more severe geology and soils impacts than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on geology and soil resources would remain less significant, following mitigation.

6.7 Greenhouse Gas Emissions

6.7.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on Greenhouse Gas (GHG) Emissions would be less than significant and no mitigation measures were required.

The Approved Project resulted in large emission reductions of GHG emissions from both stationary and mobile sources. As shown in Table 12, emissions from operation of the Approved Project would be below the Bay Area Air District CEQA significance thresholds.

TABLE 12

Summary Total Approved Project GHG Emission Changes (metric tons/year)

Source	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Stationary Source	-1,178,230	-56.78	-9.45	-1,182,352
Mobile Source	-11,813	0.03	-0.24	-10,674
Off-Site Bay Area Air District Stationary Sources	303,918	2.43	0.24	304,044
Approved Project Total	-886,125	-54.32	-9.45	-888,982
Bay Area Air District CEQA Threshold	NA	NA	NA	1,100

See October 2021 Draft EIR, Table 3.8-9 for detailed information.

6.7.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

The Modified Project will modify the quantity of GHG emissions from the Facility as shown in Table 13. The change in GHG emissions is below the Bay Area Air District CEQA significance thresholds and are considered less than significant. GHG emissions from the Modified Project would remain a reduction.

TABLE 13

Summary Total Modified Project GHG Emission Changes (metric tons/year)

Source	CO₂	CH₄	N₂O	Total CO₂e
Storage Tanks	0.00	0.00	0.00	0.00
Thermal Oxidizer	1,021.77	0.02	0.00	1,022.77
Truck Offloading	1,210.19	0.00	0.19	1,269.35
Modified Sources Total:	2,231.96	0.02	0.19	2,292.13
Modified Project Impact (metric tons/year):	2,231.96	0.02	0.19	2,292.13
Impact from Approved Project (metric tons/year):	-886,125	-54.32	-9.45	-888,982
Total Modified Project Impact	-883,893.04	-54.30	-9.26	-886,689.87
Bay Area Air District CEQA Threshold (tons/year)	NA	NA	NA	10,000 ^(a)
Significant:	No	No	No	No

^(a) The Project-level significance threshold was updated in April 2022 to 10,000 metric tons/year in the Bay Area Air District CEQA Guidelines Chapter 6.

6.7.3 Conclusions

As discussed above, the Modified Project impacts on greenhouse gas emissions will continue to be less than significant. The Modified Project is not expected to require substantial construction activities. Therefore, the Modified Project would not have any new or substantially more severe GHG emission impacts than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on greenhouse gas emissions would remain less significant.

6.8 Hazards and Hazardous Materials

6.8.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on Hazards and Hazardous Materials would be significant and unavoidable in the event of an oil spill from the marine terminals. The Approved Project impacts for other hazards were determined to be less than significant.

The Approved Project converted the Refinery from fossil fuel refining to a renewable fuels facility, primarily involving the alteration and addition of refinery equipment to process non-petroleum feedstocks into renewable diesel fuel, renewable propane, renewable naphtha and potentially renewable aviation fuel. Changes were also made to the Avon Marine Terminal to equip it to receive renewable feedstocks for hydroprocessing and additional petroleum-based materials for

distribution. Refinery equipment not associated with the Renewable Fuels Project or product distribution activities was shut down.

The Approved Project resulted in the reduction in feedstocks processed at the Facility from 161,000 barrels per day of crude oil to 48,000 barrels per day of renewable feedstocks. A detailed Hazards and Hazardous Materials Technical Analysis was performed in compliance with the requirements of the Contra Costa County code. The analysis determined that transportation hazards and the Approved Project hazards would be less than significant. Further, as a result of converting from crude oil to renewable feedstocks (e.g., vegetable oils), the Approved Project eliminated or reduced the use of a number of hazardous materials, e.g., ammonia and sulfuric acid.

In addition, lower quantities of crude oil would be stored on the Site, and the shutdown of petroleum refining units would result in the operation of fewer units, boilers, vessels, towers, columns, fugitive emissions and other similar equipment, generally reducing the overall hazards associated with the Approved Project.

Due to the market conditions of renewable feedstocks and renewable fuels, the size of the vessels that would visit the marine terminal are expected to be smaller, and barges with capacities of 25,000 to 50,000 barrels would be more frequent visitors to the terminals than tankers with capacities up to 750,000 barrels per vessel. However, there will be a 3- to 4-fold increase in vessel calls for the Approved Project relative to Baseline (e.g., 400 vessels per year versus a baseline average of 143 vessels per year). Based on the risk analyses performed for the Amorcó and Avon Marine Terminals, the spill probability, which would include renewable feedstocks, would be expected to increase due to the increased vessel traffic. Although the Approved Project transportation activities would not be expected to result in increases in the magnitude of hazardous materials handled, the Approved Project activities would result in increased vessel calls, thereby increasing the potential for corresponding accidental releases of renewable feedstocks. Even with implementation of Mitigation Measure HAZ-1, the potential for an increased transportation risk would be significant and unavoidable.

The Approved Project impacts associated hazards, e.g., hazards to workers and schools, impacts on an airport land use plan, interfere with an adopted emergency response/evacuation plan, or wildland fires were considered less than significant or no impact.

6.8.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks operating within the facility at a location within Tract 4.

The Modified Project would allow additional storage tanks to handle renewable fuels and related products/by products in addition to the current service. Renewable feedstocks include vegetable oils (e.g., soybean oil and corn oil), rendered fats and other similar renewable feed stocks, which are generally less hazardous than crude oil and petroleum products/by-products. Therefore, the

use of additional tanks to store renewable feedstocks, products, and by-products would not result in any increase in hazards at the Facility.

The Modified Project would include the receipt of renewable fuels via truck, with a subsequent decrease in the transport of feedstocks via marine vessel and rail. This would reduce the volume of materials transported via vessel and reduce the number of vessel calls at the Martinez marine terminals, thus reducing the potential hazards associated with a vessel calls and related spills when local supplies of renewable feedstocks are available and shipped via truck.

The Final EIR concluded that the Approved Project was anticipated to result in a decrease in number of truck trips from 205 average per day to 181 average per day. Since the Approved Project would generate fewer truck trips than the existing Refinery, no significant impacts on truck traffic were expected. Under the Modified Project, trucks trips are expected to increase by up to 25 trucks per day, to deliver renewable feedstock, with a corresponding decrease in marine vessel traffic. Implementation of the Modified Project would result in an average of approximately 206 per day. In addition, the activity level of vacuum trucks is conservatively assumed to remain the same as in the baseline period (i.e., approximately 2,500 trucks per year) with only the unloading location changing. This is a conservative assumption as the feedstock throughput of the Martinez Facility has been substantially reduced and the associated vacuum truck activity may actually decrease. Therefore, the Modified Project would generate about the same number of truck trips as under the baseline period for the Approved Project, and no significant increase in truck hazards are expected.

6.8.3 Conclusions

As discussed above, the Modified Project will have no additional impacts on hazards and hazardous materials than the Approved Project evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to hazards and hazardous materials than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on hazards and hazardous materials would remain significant due to the potential impacts of oil spills associated with marine terminal activities.

6.9 Hydrology and Water Quality

6.9.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project impacts on Hydrology and Water Quality would be significant and unavoidable in the event of an oil spill from the marine terminals. The Approved Project impacts for other hydrology and water quality impacts were determined to be less than significant.

As discussed above, the Approved Project was expected to result in an increase in vessel calls (e.g., 400 vessels per year versus a baseline average of 143 vessels per year). The spill probability would be expected to increase due to the increased vessel traffic. Although the Approved Project transportation activities were not expected to result in increases in the magnitude of hazardous materials handled, Approved Project activities would result in increased vessel calls, thereby

increasing the potential for corresponding accidental releases of renewable feedstocks and generating significant water quality impacts. Even with implementation of marine terminal lease conditions, contingency planning and required response measures, the potential for water quality impacts would be significant and unavoidable.

The Approved Project impacts on groundwater, stormwater drainage/erosion, flood hazards, and tsunamis were considered to be less than significant or result in no impact.

6.9.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; and (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks operating within the facility at a location within Tract 4.

The Modified Project would allow additional storage tanks to handle renewable fuels and related products/by products in addition to the current service. Renewable feedstocks include vegetable oils (e.g., soybean oil and corn oil), rendered fats and other similar renewable feed stocks, which are generally less hazardous than crude oil and petroleum products/by-products. The storage tanks currently handle petroleum products and are located within containment berms that would contain spills in the event of an accidental release. Therefore, the use of additional tanks to store renewable feedstocks, products, and by-products would not result in any increase in water quality hazards at the Facility.

The Modified Project would include the receipt of renewable fuels via truck, in addition to existing marine vessel and rail. This would reduce the volume of materials transported via vessel and reduce the number of vessel calls at the Martinez marine terminals, thus reducing the potential water quality impacts associated with vessel calls and related spills when local supplies are available.

6.9.3 Conclusions

As discussed above, the Modified Project will have no additional impacts on hydrology and water quality than the Approved Project evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to hydrology and water quality than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on hydrology and water quality would remain significant due to the potential water quality impacts of oil spills associated with marine terminal activities.

6.10 Land Use

6.10.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project would result in less than significant impacts on Land Use.

The Facility is located within a developed petroleum refinery which includes related industrial equipment. The potential for the Approved Project to divide an established community would not change following completion of construction. Because no changes outside the footprint of the existing Refinery or marine terminals would occur, the Approved Project would not reduce any distances to existing established communities nor result in the presence of new barriers within those communities.

The Approved Project continued the use of the Project Site as a refinery for the production of fuels. The Site is consistent with the Heavy Industrial land use designation of the County General Plan, and is a permitted use in the H-I District of the County. The continued use of the Refinery and Avon and Amorco marine terminals for receipt, storage, distribution and manufacturing of fuels, albeit from renewable feedstock rather than petroleum, would be consistent with allowable land uses specified in applicable land use plans of the City, County and Bay Conservation and Development Commission (BCDC). Land use impacts were less than significant and no mitigation measures were required

6.10.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; and (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks from at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of and existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. The operating portions of the Facility are within the area designated for heavy industrial use and the Modified Project would be consistent with the existing land use of the Facility. The new pipe would be located at ground level within and near the storage tanks. Therefore, the Modified Project would not change or affect land use within or adjacent to the Facility or marine terminals.

6.10.3 Conclusions

As discussed above, the Modified Project will have no additional impacts on land use than the Approved Project evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to land use than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on land use would remain less than significant and no mitigation measures are required.

6.11 Noise

6.11.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project would result in less than significant impacts associated with noise impacts.

The construction activities associated with the Approved Project were not expected to result in an increase in noise to the closest residential areas. Construction activities were expected to be limited to 8 am to 5 pm, and transport of heavy equipment and trucks were limited to 9 am to 4 pm Monday through Friday. Noise and ground vibration impacts associated with construction activities were considered less than significant.

Once constructed, noise associated with the Approved Project was expected to be reduced from the operating petroleum refinery, due to the shutdown of a number of units including Crude Units, No. 4 HDS, Alkylation Unit, No. 4 Gas Plant, Catalytic Reformer, No. 3 Reformer, Sulfur Recovery Unit, Benzene Saturation Unit, Fluid Catalytic Cracking Units, Boilers, and Vacuum Unit. The shutdown of existing units resulted in the operation of fewer units, vessels, towers, columns, and other similar equipment, reducing the overall noise associated with the operation of the Martinez Facility. The Approved Project resulted in the shutdown of 12 existing processing units, plus two additional boilers, while constructing 2 new processing units (the Pretreatment Unit and Stage 1 Wastewater Treatment Unit) plus one thermal oxidizer.

Based on the above, the Approved Project would produce less noise than under baseline conditions. Noise impacts were considered to be less than significant and no mitigation measures were required.

6.11.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; and (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. The operating portions of the Facility are within the area designated for heavy industrial use and approximately 0.75 miles from sensitive receptor and residential areas.

Once constructed, noise associated with the Approved Project was expected to be reduced from the operating petroleum refinery, as the Approved Project resulted in the shutdown of 12 existing processing units, plus two additional boilers, while constructing 2 new processing units (the Pretreatment Unit and Stage 1 Wastewater Treatment Unit) plus one thermal oxidizer. The

Modified Project would not add any new operating units; therefore, noise impacts are expected to remain less than significant and less than when the facility operated as a petroleum refinery.

6.11.3 Conclusions

As discussed above, the Modified Project will have additional noise impacts use than the Approved Project evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to land use than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on noise would remain less than significant and no mitigation measures are required.

6.12 Public Services

6.12.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project would result in less than significant impacts on Public Services.

The Refinery maintains internal fire response teams and systems in the developed areas of the Refinery. On-site fire suppression systems include fire pumps, foam systems, firefighting engines and trucks, and fire hydrants spaced 200 feet apart in refining process areas and tank farms. As the Approved Project would not introduce new fuel production uses to the property and would result in a decreased fuel production, and with maintenance of the existing on-site fire suppression systems, no significant impacts in fire response services would be expected.

The Final EIR concluded that the Approved Project would not result in an increase in population in the County. Therefore, work activities would not pose a substantial risk to the County's ability to maintain the General Plan standard of having 155 square feet of Sheriff station area and support facilities for every 1,000 members of the population. Private on-site security services are already in place at the Refinery and would be maintained with implementation of the Approved Project. The Approved Project impacts on public safety services would be less than significant.

Because the Approved Project is an industrial project and not a residential development, and because the Refinery employment decreased with the Approved Project, the Approved Project would not increase population or increase demands on public schools, public parks, or other public facilities (e.g., libraries, senior centers, community centers, etc.)

6.12.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; and (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility.

The Modified Project would not result in any additional operating units or increase in employees. The Martinez Facility will continue to maintain fire response teams and suppression systems. Fire hydrants are already located within the storage tank farm. Therefore, the Modified Project would not introduce new fire hazards or result in an increase in fire response services.

The Modified Project would not result in an increase in employees at the Martinez Facility. As with the Approved Project, there was a decrease in employment associated with conversion of the facility to renewable feedstocks as the production of the facility decreased from 160,000 bpd to 48,000 bpd. Therefore, the Modified Project would not increase population or increase demands on public safety services, public schools, public parks, or other public facilities (e.g., libraries, senior centers, community centers, etc.). The Modified Project impacts on public services would remain less than significant.

6.12.3 Conclusions

As discussed above, the Modified Project will result in no additional employees than the Approved Project evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to public services than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on public services would remain less than significant and no mitigation measures are required.

6.13 Transportation

6.13.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project would result in less than significant impacts on Transportation.

The Refinery pre-project generated approximately 20,800 vehicles miles per day on most days of the week. The Approved Project resulted in a decrease in employment and an estimated decrease of 820 fewer employee trips. Therefore, the Approved Project resulted in a decrease in vehicle miles travelled. Since the Approved Project would generate fewer employee vehicle trips than the existing Refinery, no significant impacts on vehicle miles travelled were expected.

The vehicle miles travelled (VMT) analysis guidelines and their supporting statutes do not specify methodologies for evaluation of impacts from construction equipment or employees or for heavy duty truck trips. However, truck trips associated with the Approved Project were anticipated to decrease in number from 205 average per day to 181 average per day. Since the Approved Project would generate fewer truck trips than the existing Refinery, no significant impacts on truck traffic were expected.

The Approved Project would not increase hazards or result in inadequate emergency access as there would be no changes to the circulation patterns used by trucks or vehicles. All construction activities would remain on-site. The truck routes into and around the Refinery and marine terminals would be the same with no changes proposed to existing access routes. Therefore, the Approved Project would not increase traffic hazards or result in inadequate emergency access.

6.13.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; and (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility.

The Modified Project would not result in any additional operating units or increase in employees. The Modified Project could result in an additional 25 trucks per day to deliver renewable feedstock, with a corresponding decrease in marine vessel traffic. The truck trips associated with the Martinez Facility pre-Project were an average of approximately 205 per day. Implementation of the Modified Project would result in an average of approximately 206 per day. Further, the seven vacuum trucks are part of ongoing operations and part of the baseline period with only the unloading area changing. The vacuum trucks transport material around the Facility and remain on-site so there is no increase in off-site truck trips associated with the revised loading area. Therefore, the Modified Project would generate about the same number of truck trips as under the baseline period for the Approved Project, and no significant impacts on truck traffic are expected.

No other changes are expected to transportation activities at the Martinez Facility. Therefore, the Modified Project impacts on Transportation would remain less than significant.

6.13.3 Conclusions

As discussed above, the Modified Project will result in no additional employees than the Approved Project evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to VMT than the Approved Project and would not alter the conclusions of the Final EIR. In addition, no significant increase in truck traffic is expected. The impacts of the Renewable Fuels Project on Transportation would remain less than significant and no mitigation measures are required.

6.14 Utilities and Service Systems

6.14.1 Summary of Final EIR (Approved Project)

The Final EIR determined that the Renewable Fuels Project would result in less than significant impacts on Utilities and Services Systems.

The Approved Project resulted in the shutdown of 12 units and two boilers, and reduce the amount of feedstock processed at the Facility from 161,000 bpd to 48,000 bpd. Overall, the Approved Project resulted in a reduction in electricity used from approximately 1,200,000 MWH per year to an estimated 855,000 MWH per year. In addition, the Approved project resulted in a reduction in natural gas use from 60,000 mmBtu/day to approximately 31,080 mmBtu/day. Therefore, the Approved Project resulted in a reduction of electricity and natural gas use.

The Approved Project did not require modification to telecommunication service, new gas facilities, or new electric facilities.

The Approved Project resulted in a reduction in operating units at the Refinery and a reduction in water used. Pre-project, the Refinery consumed 3,100 to 3,300 million gallons of fresh water per year. The Approved Project resulted in an approximately 70 percent reduction in water use or about 1,310 to 1,320 million gallons of fresh water per year.

Pre-Project operations generated approximately 4.4 million gallons of wastewater per day. The wastewater was treated in onsite wastewater treatment facilities. The closure of 12 operating units eliminated the wastewater generated by these units. The estimated wastewater discharge associated with the Approved Project was approximately 3.1 million gallons per day, resulting in a decrease in wastewater discharged from the Martinez Facility. Further the Approved Project did not result in the relocation or construction of new or expanded public wastewater treatment facilities.

Finally, the Approved Project would result in decreases in throughput, production and employment at the Refinery, which in turn would result in generation of a lower volume of solid waste as compared to pre-project operations. The Approved Project's impacts on solid waste reductions goals would be less than significant.

6.14.2 Impacts of the Modifications to the Project

The Modified Project would: (1) allow 18 storage tanks to handle renewable fuels and related products/by products, in addition to their current service; (2) allow an adjustment of the heating value for the thermal oxidizer from 1.91 mmBtu/hr to 2.2 mmBtu/hr; and (3) allow receipt of renewable fuels via truck, in addition to marine vessel and rail; and (4) add an unloading spot for the vacuum trucks at a location within Tract 4.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited

to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility.

The Modified Project is not expected to result in an increase in electrical usage as the equipment changes do not involve the use of electricity, therefore, no impacts to electrical utilities would occur.

The Modified Project would result in an increase of 6.96 mmBtu/day of natural gas (0.29 mmBtu/hr x 24 hrs/day = 6.96 mmBtu/day) since it is a slightly larger unit. However, the Approved Project evaluated in the Final EIR estimated that the conversion of the Refinery to using renewable feedstocks would result in a reduction of approximately 29,000 mmBtu/day. Therefore, the Modified Project would still result in a reduction in natural gas and, therefore, no increase in natural gas demand would be expected from PG&E.

The equipment associated with the Modified Project would not require any increase in water use and, therefore, would not result in any increase in wastewater generated or change the components in the wastewater stream. Therefore, the Modified Project would have no impact on water use or wastewater generation/discharge.

The Approved Project resulted in decreases in throughput, production and employment at the Facility, which in turn resulted in lower volume of solid waste generated as compared to prior operations. The Modified Project would not change the throughput, production or employment at the Facility. Therefore, the solid waste generation is expected to be the same as the Approved Project.

6.14.3 Conclusions

As discussed above, the Modified Project will continue to result in reductions in electricity usage, natural usage, water demand, wastewater generation, and solid waste generation, as evaluated in the Final EIR. Therefore, the Modified Project would not have any new or substantially more severe impacts related to Utilities and Service Systems than the Approved Project and would not alter the conclusions of the Final EIR. The impacts of the Renewable Fuels Project on Utilities and Service Systems would remain less than significant and no mitigation measures are required.

7.0 POTENTIAL ENVIRONMENTAL IMPACTS FOUND TO BE NOT SIGNIFICANT

The Final EIR found that the following topics would have less than significant impacts. The Modified Project would have similar or reduced impacts as compared to the Approved Project for these resources, as discussed below. This section discusses the remaining five environmental topic areas found not to be potentially significantly affected by the Renewable Fuels Project in the February 2021 NOP and the Final EIR. The effect of the Modified Project on the conclusions relating to each of these environmental topic areas is discussed in the following sections.

7.1 Agricultural and Forestry Resources

As discussed in the Final EIR, according to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) and the Contra Costa County Important Agricultural Lands Map, there are no lands designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance on or adjacent to the Project Site. The FMMP map designates the Project Site as Urban and Built Up Land, a designation that encompasses land occupied by a structure with a building density of at least one residential unit per 1.5 acres, or approximately six structures to a 10-acre parcel. Lands adjacent to the Refinery to the east and west are other industrial lands or are undeveloped marshlands.

There are no existing or proposed agricultural land uses on the Project Site. As described in the General Plan, the Heavy Industry land use designation of the property is intended for heavy and light industrial uses on large areas of land proximate to truck, ship or rail facilities; agricultural or forestry uses are not among those listed as consistent with the Heavy Industry designation. In addition, according to the Contra Costa County Important Agricultural Lands Map, the Project Site is not located on important agricultural land. The Project Site is zoned as Heavy Industrial (H-I) on the County's Zoning Map. The allowable uses of property zoned H-I Heavy Industrial excludes agricultural uses. There is no Williamson Act contract applicable to the Project Site. There is no zoning for forest land, timberland or timberland production currently on the Project Site or on surrounding properties. There are no existing forest land or timberland resources on the Project Site. The Approved Project would not include conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forested land or timberland resources, to other uses. The Approved Project would not occur on any lands designated by the State as Grazing lands or designated by the County as Important Agricultural Lands; as such, the Approved Project would not impair opportunities for future use of those lands for livestock grazing.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility, which is zoned for Heavy Industrial uses. Therefore, the Modified Project would have no impact to agricultural or forest resources.

7.2 Mineral Resources

As discussed in the Final EIR, the Project Site has been developed for decades as an oil refinery, and there is no history of mineral resources being found on the Project Site. According to the Department of Conservation Mines Online Mapper, there are no active or retired mines on or near the Project Site and no areas have been designated as areas of regional significance for construction aggregate. The Contra Costa General Plan identified three regionally significant areas of mineral resources in the County. The areas of important mineral resources that are currently mined in the County include crushed rock near Mt. Zion, on the north side of Mt. Diablo, in the Concord area; shale in the Port Costa area; and sand and sandstone deposits, mined from several locations, but focused in the Byron area of southeast County. The closest mineral resource to the Project Site is the crushed rock found near Mt. Zion, which is approximately 10 miles southeast of the Project

Site. Neither the State Geologist nor the Department of Conservation has classified any other areas near the Project Site as containing mineral deposits that are either of statewide significance or the significance of which requires further evaluation.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. Since no mineral resources have been identified at the Project Site, the Modified Project would have no impact to Mineral Resources.

7.3 Population and Housing

As discussed in the Final EIR, the Approved Project is located on a developed and currently industrial site. The Approved Project does not include construction of new housing nor demolition of existing housing units, and therefore, the Approved Project would not directly cause unplanned population growth in the region. Because the Approved Project does not include construction of any residential units, the allowances and obligations of the County's density bonus and inclusionary housing ordinances are not applicable. Indirect population growth occurs when a project creates substantial employment opportunities. The Approved Project consisted primarily of changes in operation rather than construction of new facilities. The change in operation would consist of modifications to existing refining equipment and transportation terminals, and construction would last up to 3 years. The modifications required approximately 1,400 temporary construction workers, who would work during different shifts each day but not necessarily for the entire construction period. Due to the lack of permanency in the construction and demolition phases of the Approved Project, workers were anticipated to come from the existing labor pool in the County. Due to the change in Refinery production, the Refinery anticipated a reduction in the number of employees, from an average of 520 per day to 110 per day for ongoing operations under the Approved Project. Therefore, there would be a net decrease in the workforce needed for the Approved Project.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. An estimated 8-16 people were expected for the construction of the pipe over a three-week period. It should be noted that the major construction activities associated with modifying the facility from a petroleum-based Refinery to using renewable feedstocks was completed several years ago.

As stated above, the Renewable Fuels Project resulted in a decrease in refinery operations and a decrease in employees. The Modified Project modifications would not require any additional operational employees. The Modified Project modifications would not result in any change in the population, housing or employment projections that would exceed the County's population projections or conflict with County's Housing Element. Therefore, the Modified Project would have no impact to population and housing.

7.4 Recreation

As discussed in the Final EIR, the Approved Project would not induce long-term population growth to the area and, therefore, would not increase the need for parkland dedication established by County goals and policies. There would be an increase in construction workers during the 2 to 3 years of Project construction but an overall decrease in permanent workers associated with ongoing operation of the Approved Project. All Approved Project modifications would be located within the footprint of the existing Refinery or supporting marine oil terminals. Construction would not interfere with nor impair continued public access to nearby wildlife preserves and recreation areas on or off the property.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility. An estimated 8-16 people were expected for the construction of the pipe over a three-week period. It should be noted that the major construction activities associated with modifying the facility from a petroleum-based Refinery to using renewable feedstocks were completed several years ago.

Due to the overall decrease in operational workers for the Refinery (from an average of 520 per day to 110 per day for ongoing operations under the Approved Project), and because there would be no expansion of existing recreational facilities due to the Modified Project and no adverse effects to already existing parks and recreational facilities, the Modified Project would have no impact to recreation.

7.5 Wildfire

The Final EIR determined that the Approved Project was not located in a Very High Fire Hazard Severity Zone (VHFHSZ) or a state or federal responsibility zone. Approximately 400 acres of undeveloped grass lands and the Hastings Slough north and northeast of the on-site recreational fields are within the service area of the Contra Costa County Fire Protection District. The closest operating fire station to the Refinery and Avon MOT is Contra Costa Fire Station 9, located at 209 Center Avenue in the unincorporated community of Pacheco, approximately 1.6 miles southwest of the Refinery; the closest fire station to the Amorco MOT is Station 14 located at 521 Jones Street in Martinez. Refinery operators maintain internal fire response teams and systems for the developed areas of the Refinery and MOTs. On-site fire suppression systems include fire pumps, foam systems, firefighting engines and trucks, and fire hydrants spaced 200 feet apart in refining process areas and tank farms. Due to the developed nature and relatively flat topography of the Project Site, the Approved Project would not exacerbate fire risks. There are some seasonal grasses onsite that could burn if ignited in dry weather. However, because the Project Site is not within or near a VHFHSZ, is not adjacent to heavily forested wildlands, and maintains multiple on-site fire suppression systems, the Approved Project would not lead to the exacerbation of wildland fire risks. The Approved Project does not include any aspects that would impede the Emergency Operation Plan or other emergency responses for the County, such as lane closures, impeding necessary resources or services or disrupting communication procedures. Therefore, the Approved Project would have no wildfire impact.

No physical modifications or construction activities would be required to the 18 storage tanks or the thermal oxidizer associated with the Modified Project. Construction activities would be limited to the replacement of an existing pipe and approximately 300 feet of new pipe near the truck loading area, within the confines of the Renewable Fuels Facility.

New Fire Hazard Maps were released by the State Fire Marshall in March 2025.⁵ The new Fire Hazard Maps also indicate that the Project Site is not within a VHFHSZ. An area near the Hastings Slough in the northern and undeveloped portion of the Project Site, is within a moderate fire hazard severity zone, based on the latest map. The Martinez Facility continues to maintain internal fire response teams and systems for the developed areas of the Refinery and marine terminals. On-site fire suppression systems include fire pumps, foam systems, firefighting engines and trucks, and fire hydrants spaced 200 feet apart in refining process areas and tank farms. The Modified Project would not add any additional ignition sources to the Facility and the Facility will continue to operate its own fire suppression systems including fire pumps, foam systems, firefighting engines and trucks and fire hydrants spaced 200 feet apart in the refining process and tank farm areas. Due to the developed nature and relatively flat topography of the Project Site, the Modified Project would not exacerbate fire risks. There are some seasonal grasses onsite that could burn if ignited in dry weather. However, because the Project Site is not within or near a VHFHSZ, is not adjacent to heavily forested wildlands, and maintains multiple on-site fire suppression systems, the Modified Project would not lead to the exacerbation of wildland fire risks.

8.0 CONCLUSIONS

As explained in Sections 6.0 and 7.0 of this Addendum, the analysis of the currently proposed modifications (Modified Project) to the Martinez Renewable Fuels Project (Approved Project) indicate that no new significant adverse impacts would be created for any environmental areas analyzed in the Final EIR, nor would the modifications make substantially more severe any existing significant adverse impacts. Based on the environmental analysis prepared for the currently proposed modifications to the Renewable Fuels Project, the Bay Area Air District has quantitatively and qualitatively demonstrated that the currently proposed modifications to the Renewable Fuels Project qualify for an Addendum to the previously certified Final EIR.

⁵ CalFire, 2025. Fire Hazard Severity Zones. Available at: <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones>.

9.0 REFERENCES

BAAQMD, 2022. Bay Area Air Quality Management District 2022 CEQA Guidelines, April 2022, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>

Contra Costa County, Final Revised EIR for the Martinez Refinery Renewable Fuels Project, June 2025. <https://www.contracosta.ca.gov/DocumentCenter/View/87021/Marathon-Martinez-Refinery-Renewable-Fuels-Project-Final-REIR-June-2025-PDF>

Contra Costa County, Final EIR for the Marathon Martinez Renewable Fuels Project, March 2022. <https://www.contracosta.ca.gov/DocumentCenter/View/74460/Martinez-Refinery-Renewable-Fuels-Project-FEIR>

Contra Costa County, Draft EIR for the Marathon Martinez Renewable Fuels Project, October 2021. <https://www.contracosta.ca.gov/DocumentCenter/View/72957/Martinez-Refinery-Renewable-Fuels-DEIR-Vol-1-Complete-DEIR>

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APPENDIX A

Detailed Air Emission Calculations

A.1 Operational Emission Calculations

A.2 Construction Emission Calculations

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A.1 Operational Emission Calculations

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Table A.1-1a Average Daily Stationary Source Emissions Summary.

Martinez Facility

Daily Project Impact:

Pre-Project (lb/day)	Criteria Pollutant Emissions (lb/day)					
Source Category	NOx	SO2	CO	POC	PM10	PM2.5
Stationary Combustion	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Source	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks				61.48		
Total:	0.00	0.00	0.00	61.48	0.00	0.00

Post-Project (lb/day)	Criteria Pollutant Emissions (lb/day)					
Source Category	NOx	SO2	CO	POC	PM10	PM2.5
Stationary Combustion	9.05	9.36	12.67	0.28	0.39	0.39
Mobile Source	11.16	0.07	3.88	0.34	1.74	0.34
Storage Tanks				77.54		
Total:	20.20	9.43	16.56	78.16	2.13	0.74

Project Impact (lb/day)	20.20	9.43	16.56	16.68	2.13	0.74
BAAQMD CEQA Threshold (lb/day)	54	NA	NA	54	82	54

Table A.1-1b Total Annual Stationary Source Emissions Summary.

Martinez Facility

Annual Project Impact:

Pre-Project (lb/year)	Criteria Pollutant Emissions (Tons)					
Source Category	NOx	SO2	CO	POC	PM10	PM2.5
Stationary Combustion	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Source	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks				22,439.28		
Total:	0.00	0.00	0.00	22,439.28	0.00	0.00

GHG Emissions (Metric Tons/Year)			
CO2	CH4	N2O	CO2e
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Post-Project (lb/year)	Criteria Pollutant Emissions (Tons)					
Source Category	NOx	SO2	CO	POC	PM10	PM2.5
Stationary Combustion	3,302.52	3,416.40	4,625.28	103.92	143.60	143.60
Mobile Source	4,072.16	25.26	1,417.33	123.58	634.43	125.38
Storage Tanks				28,301		
Total:	7,374.68	3,441.66	6,042.61	28,528.41	778.03	268.98

GHG Emissions (Metric Tons/Year)			
CO2	CH4	N2O	CO2e
1,021.77	0.02	0.00	1,022.77
1,210.19	0.00	0.19	1,269.35
2,231.96	0.02	0.19	2,292.13

Project Impact (TPY)	3.69	1.72	3.02	3.04	0.39	0.13
BAAQMD CEQA Threshold (TPY)	10	NA	NA	10	NA	NA

2,231.96	0.02	0.19	2,292.13
NA	NA	NA	10,000.00

Table A.1-2a Average Daily Pre-Project Emissions (lb/day)

Source ID	Source	NOx	SO2	CO	POC	PM10	PM2.5
2000	Sour Water Stripper Off-Gas Thermal Oxidizer	0.00	0.00	0.00	0.00	0.00	0.00
	Renewable Feedstock Unloading Rack Truck Transport Emissions	0.00	0.00	0.00	0.00	0.00	0.00
3	Tank A-03				4.97		
270	Tank A-270				7.50		
272	Tank A-272				10.60		
274	Tank A-274				6.23		
429	Tank A-429				6.55		
641	Tank A-641, White, Distillate Oil, Gasoline				5.12		
707	Tank 113-A-707, Medium grey Crude Oil, Hydrocarbon				1.86		
1461	Tank A-866, White, Crude Oil				2.26		
871	Tank A-871, Crude, Low Sulfur Vacuum Gas Oil				5.93		
823	Heat Exchanger Cleaning Pit North [Tank M286]				0.00		
824	Heat Exchanger Cleaning Pit South [Tank M287]				0.00		
1489	Fixed Volume Portable Tank #1, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.00		
1490	Fixed Volume Portable Tank #2, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.00		
1491	Fixed Volume Portable Tank #3, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.00		
690	Tank A-690, White, Crude Oil				4.47		
694	Tank A-694, White, Crude Oil				3.02		
705	Tank A-705, Light Green, Crude Oil				2.57		
706	Tank 113-A-706, Blue, Crude Oil				0.40		
Total Pre-Project (lb/day)		0.00	0.00	0.00	61.48	0.00	0.00

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Table A.1-2b Average Daily Post-Project Emissions (lb/day)

Source ID	Source	NOx	SO2	CO	POC	PM10	PM2.5
2000	Sour Water Stripper Off-Gas Thermal Oxidizer	9.05	9.36	12.67	0.28	0.39	0.39
	Renewable Feedstock Unloading Rack Truck Transport Emissions	11.16	0.07	3.88	0.34	1.74	0.34
3	Tank A-03				7.20		
270	Tank A-270				7.79		
272	Tank A-272				7.45		
274	Tank A-274				7.79		
429	Tank A-429				4.53		
641	Tank A-641, White, Distillate Oil, Gasoline				2.86		
707	Tank 113-A-707, Medium grey Crude Oil, Hydrocarbon				4.38		
1461	Tank A-866, White, Crude Oil				8.52		
871	Tank A-871, Crude, Low Sulfur Vacuum Gas Oil				3.03		
823	Heat Exchanger Cleaning Pit North [Tank M286]				0.00		
824	Heat Exchanger Cleaning Pit South [Tank M287]				0.00		
1489	Fixed Volume Portable Tank #1, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.97		
1490	Fixed Volume Portable Tank #2, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.97		
1491	Fixed Volume Portable Tank #3, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.97		
690	Tank A-690, White, Crude Oil				5.05		
694	Tank A-694, White, Crude Oil				3.82		
705	Tank A-705, Light Green, Crude Oil				10.48		
706	Tank 113-A-706, Blue, Crude Oil				1.72		

Total Post-Project (lb/day)	20.20	9.43	16.56	78.16	2.13	0.74
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Project Impact (lb/day)	20.20	9.43	16.56	16.68	2.13	0.74
BAAQMD CEQA Threshold	54	NA	NA	54	82	54

Notes:

SWS is a new piece of equipment under a prior project, however as there is no data yet to establish the baseline actual, these calculations conservatively assume a zero emission baseline.

The Transfer Rack being used for receipt of renewable feedstock is existing, however as data associated with existing operations is not readily available, a baseline of zero has been assumed.

Tank emissions calculated according to EPA AP-42, Chapter 7, Liquid Storage Tanks.

BAAQMD 2022 CEQA Guidelines, Chapter 3: Thresholds of Significance, Table 3-1 defines the criteria pollutant thresholds of significance on a daily and annual basis.

Table A.1-3a Annual Pre-Project Emissions (Ton/Year)

Source ID	Source	NOx	SO2	CO	POC	PM10	PM2.5	CO2	CH4	N2O	CO2e
2000	Sour Water Stripper Off-Gas Thermal Oxidizer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Renewable Feedstock Unloading Rack Truck Transport Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Tank A-03				1,815.11						
270	Tank A-270				2,737.80						
272	Tank A-272				3,868.62						
274	Tank A-274				2,272.18						
429	Tank A-429				2,392.00						
641	Tank A-641, White, Distillate Oil, Gasoline				1,868.97						
707	Tank 113-A-707, Medium grey Crude Oil, Hydrocarbon				677.39						
1461	Tank A-866, White, Crude Oil				825.87						
871	Tank A-871, Crude, Low Sulfur Vacuum Gas Oil				2,164.77						
823	Heat Exchanger Cleaning Pit North [Tank M286]				0.00						
824	Heat Exchanger Cleaning Pit South [Tank M287]				0.00						
1489	Fixed Volume Portable Tank #1, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.00						
1490	Fixed Volume Portable Tank #2, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.00						
1491	Fixed Volume Portable Tank #3, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				0.00						
690	Tank A-690, White, Crude Oil				1,630.17						
694	Tank A-694, White, Crude Oil				1,102.32						
705	Tank A-705, Light Green, Crude Oil				939.11						
706	Tank 113-A-706, Blue, Crude Oil				144.96						
Total Pre-Project (lb/yr)		0.00	0.00	0.00	22,439.28	0.00	0.00	0.00	0.00	0.00	0.00
Total (TPY)		0.00	0.00	0.00	11.22	0.00	0.00	0.00	0.00	0.00	0.00

Table A.1-3b Annual Post-Project Emissions (Ton/Year)

Source ID	Source	NOx	SO2	CO	POC	PM10	PM2.5	CO2	CH4	N2O	CO2e
2000	Sour Water Stripper Off-Gas Thermal Oxidizer	3,302.52	3,416.40	4,625.28	103.92	143.60	143.60	1,021.77	0.02	0.00	1,022.77
	Renewable Feedstock Unloading Rack Truck Transport Emissions	4,072.16	25.26	1,417.33	123.58	634.43	125.38	1,210.2	0.0	0.2	1,269.4
3	Tank A-03				2,627						
270	Tank A-270				2,842						
272	Tank A-272				2,718						
274	Tank A-274				2,842						
429	Tank A-429				1,654						
641	Tank A-641, White, Distillate Oil, Gasoline				1,045						
707	Tank 113-A-707, Medium grey Crude Oil, Hydrocarbon				1,600						
1461	Tank A-866, White, Crude Oil				3,108						
871	Tank A-871, Crude, Low Sulfur Vacuum Gas Oil				1,106						
823	Heat Exchanger Cleaning Pit North [Tank M286]				0						
824	Heat Exchanger Cleaning Pit South [Tank M287]				0						
1489	Fixed Volume Portable Tank #1, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				356						
1490	Fixed Volume Portable Tank #2, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				356						
1491	Fixed Volume Portable Tank #3, White, Slop Oil and Water Mixture, Abated by A-1001 Activated Carbon, Abated by A-1002 Activated Carbon				356						
690	Tank A-690, White, Crude Oil				1843.89						
694	Tank A-694, White, Crude Oil				1393.39						
705	Tank A-705, Light Green, Crude Oil				3824.67						
706	Tank 113-A-706, Blue, Crude Oil				628.80						
Total Post-Project (lb/yr)		7,374.68	3,441.66	6,042.61	28,528.41	778.03	268.98	2,231.96	0.02	0.19	2,292.13
Total (TPY)		3.69	1.72	3.02	14.26	0.39	0.13	2,231.96	0.02	0.19	2,292.13

Project Impact (TPY)	3.69	1.72	3.02	3.04	0.39	0.13	2,231.96	0.02	0.19	2,292.13
BAAQMD CEQA Threshold (TPY)	10	NA	NA	10	NA	NA	NA	NA	NA	10,000

Notes:

- SWS is a new piece of equipment under a prior project, however as there is no data yet to establish the baseline actual, these calculations conservatively assume a zero emission baseline.
- The Transfer Rack being used for receipt of renewable feedstock is existing, however as data associated with existing operations is not readily available, a baseline of zero has been assumed.
- Tank emissions calculated according to EPA AP-42, Chapter 7, Liquid Storage Tanks.
- BAAQMD 2022 CEQA Guidelines, Chapter 3: Thresholds of Significance, Table 3-1 defines the criteria pollutant thresholds of significance on a daily and annual basis.
- BAAQMD 2022 CEQA Guidelines, Chapter 6: Project Level Climate Impacts, Section 6.4 defines the threshold for stationary sources of GHG emissions, inclusive of mobile sources associated with the stationary source, as 10,000 MT CO2e.

Table A.1-4a Stationary Source - Sour Water Stripper Off-Gas Thermal Oxidizer Post-Project Emissions

<u>Quantity</u>	<u>Value</u>	<u>Units</u>	<u>Reference</u>
Max Firing Rate:		2.2 MMBtu/hr	Engineering estimate
CO ₂ emission factor:		53 kg/MMBtu	CARB default for natural gas
Hours of Operation:		8760 hr/yr	

Pollutant	Emission Factor	Units	Potential Emissions (tpy) [1]	Emission Factor Reference
PM	1.86E-03	lb/MMBtu	1.79E-02	AP-42 Section 1.4
PM ₁₀	7.45E-03	lb/MMBtu	7.18E-02	AP-42 Section 1.4
PM _{2.5}	7.45E-03	lb/MMBtu	7.18E-02	AP-42 Section 1.4
NO _x	0.377	lb/hr	1.65	Vendor Estimate
CO	0.24	lb/MMBtu	2.31	BAAQMD's 107 PPMv CO (at 15% O ₂) Proposed Emission Limit
SO ₂	0.39	lb/hr	1.71	Vendor Estimate
H ₂ SO ₄	4.12E-04	lb/MMBtu	3.97E-03	Eng. Estimate
POC	5.39E-03	lb/MMBtu	5.20E-02	Default
CO ₂	116.89	lb/MMBtu	1,126	CARB default EF for natural gas
CH ₄	2.20E-03	lb/MMBtu	2.12E-02	CARB default EF for natural gas
N ₂ O	2.20E-04	lb/MMBtu	2.12E-03	CARB default EF for natural gas
GHG (mass)	116.89	lb/MMBtu	1,126	Calculated
CO₂e	117.00	lb/MMBtu	1,127	CARB GWP Factors

[1] Potential Emissions (tpy) = Emission Factor (lb/MMBtu) x Max Firing Rate (MMBtu/hr) x Hours of Operation (hr/yr) / 2000 lb/ton

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Table A.1-5a Mobile Source - Truck Transport Post-Project Emissions

Daily Emissions				Criteria Pollutant Emissions (Pounds/Day)						GHG Emissions (Pounds/Day)			
Region	Road Type	Daily Average Trips:	Daily Average Miles:	POC	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
BAAQMD	Freeway	32	1,946	0.34	0.07	11.16	3.88	1.74	0.34				
On-Site	Local	32	85	0.25	0.01	3.37	3.46	2.07	0.31				
Butte	Freeway	-	-	--	--	--	--	--	--				
Feather River	Freeway	-	-	--	--	--	--	--	--				
Mojave Desert	Freeway	-	-	--	--	--	--	--	--				
Monterey Bay	Freeway	-	-	--	--	--	--	--	--				
Northern Sierra	Freeway	-	-	--	--	--	--	--	--				
Placer	Freeway	-	-	--	--	--	--	--	--				
Sacramento	Freeway	-	-	--	--	--	--	--	--				
San Joaquin Valley	Freeway	25	630	0.22	0.03	5.00	2.84	0.56	0.11				
South Coast	Freeway	-	-	--	--	--	--	--	--				
Yolo-Solano	Freeway	-	-	--	--	--	--	--	--				
Total Daily:				0.81	0.10	19.53	10.18	4.37	0.77	Not Applicable			
Total BAAQMD:				0.34	0.07	11.16	3.88	1.74	0.34				

Annual Emissions				Criteria Pollutant Emissions (Tons/Yr)						GHG Emissions (Metric Tons/Yr)			
Region	Road Type	Total Annual Trips:	Total Annual Miles:	POC	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
BAAQMD	Freeway	11,625	710,325	0.06	0.01	2.04	0.71	0.32	0.06	1,210.19	0.00	0.19	1,269
On-Site	Local	11,625	31,200	0.05	0.00	0.62	0.63	0.38	0.06	148.55	0.00	0.02	156
Butte	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Feather River	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Mojave Desert	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Monterey Bay	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Northern Sierra	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Placer	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Sacramento	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
San Joaquin Valley	Freeway	9,125	229,950	0.04	0.00	0.91	0.52	0.10	0.02	437.79	0.00	0.07	459
South Coast	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Yolo-Solano	Freeway	-	-	--	--	--	--	--	--	--	--	--	0
Total Annual:				0.15	0.02	3.56	1.86	0.80	0.14	1,796.53	0.01	0.28	1,884
Total BAAQMD:				0.06	0.01	2.04	0.71	0.32	0.06	1210.19	0.00	0.19	1269.35

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Table A.1-5a Mobile Source - Truck Transport Post-Project Emissions

T7 Tractor Diesel Truck Emission Factors (EMFAC2021).				Emission Factors								
Exhaust Source	Road Type	Units	POC	NOx	PM ₁₀	PM _{2.5}	CO	SO ₂	CO ₂	CH ₄	N ₂ O	
Running Exhaust		lb/mile	0.00005	0.00418	0.00005	0.00005	0.00023	0.00003	3.44638	0.00000	0.00054	
Idle Exhaust		lb/vehicle/day	0.00761	0.09472	0.00004	0.00004	0.10795	0.00018	18.92295	0.00035	0.00298	

On-road Vehicle Paved Road Dust Entrainment Emission Factors (pounds/mile):									
Variable	Road Type	ADT	Reference	Symbol	Value	Unit	PM ₁₀	PM _{2.5}	
PM ₁₀ particle size multiplier			CARB - 2018 EI	k	0.0022	lb/vmt			
PM _{2.5} particle size multiplier			CARB - 2018 EI	k	0.00033	lb/vmt	lb/mile	lb/mile	
Road silt loading - Freeway	Freeway	>10,000	EPA - AP42	sL	0.015	g/m ²	8.40E-04	1.26E-04	
Road silt loading - Local	Local	< 500	EPA - AP42	sL	0.600	g/m ²	2.41E-02	3.62E-03	
Average vehicle weight			EPA HD7 Trucks	W	16.50	tons			
Paved Road Dust Entrainment									

$$Ef = k(sL)^{0.91} \times W^{1.02}$$

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Appendix A.1

**Marathon - Martinez
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Table A.1-5a Mobile Source - Truck Transport Post-Project Emissions

Notes:

1. Trip distances assume:
 - a. Estimated distances to various locations of commodity transport with estimated percentage of total commodity transport to each location.
 - b. Onsite distances estimated based on locations products are delivered to within the facility.
2. EMFAC2021 criteria pollutant and GHG emission factors for T7 Tractor engines are derived from the California Air Resources Board's EMFAC2021 2022-2024 emission estimates for BAAQMD Region. Source: California Air Resources Board, EMFAC2021 Web Database (v1.0.1) (undated), emissions data option, available at <https://arb.ca.gov/emfac/emissions-inventory/45426a1827d3ff847e320ea3fd08ba811f1ea0c9> (accessed January 12, 2022). Data reflects the use of aggregated vehicle model years, vehicle speeds, grouped by Road Type)
 - a. Vehicle Category based on EMFAC2011 vehicle definitions, applied the T7 Tractor vehicle type.
 - b. Criteria pollutant emission factors include total emissions for each pollutant. In addition to running exhaust emissions, emission factors include idle exhaust emissions. PM10 and PM_{2.5} from on-road vehicle paved road dust entrainment emission factors are included in the total emissions for the each trip segmented as documented above.
 - c. PM₁₀ and PM_{2.5} from on-road vehicle paved road dust entrainment emission factors are included in the total emissions for the each trip segmented as documented above.
 - d. Vehicle emissions based on the reported "emission rate" data for the specified vehicle category. This data is reported in terms of g/mile (running exhaust) and g/vehicle/day (idle exhaust). Note that emissions data for running exhaust is based on individual vehicle speeds, grouped by "Road Type". Idle Exhaust data is only reported by CARB for aggregated vehicle speeds, so each Road Type/Vehicle speed is assumed to have the same idle exhaust value.
3. Fleet size is estimated based on projected volumes of each commodity to be transported during post-project operations.
4. Equation for calculating on-road vehicle paved road dust entrainment emissions: U.S. Environmental Protection Agency, *Compilation of Air Pollutant Emission Factors (AP-42), Section 13.2.1 Paved Roads, Equation 1.*
 - a. Silt loading factors are as defined by EPA, Table 13.2.1-2 of *Compilation of Air Pollutant Emission Factors (AP-42), Section 13.2.1 Paved Roads*.
 - b. Particle size multipliers as defined by CARB in Section 7.9 of the Emissions Inventory Guidance Document - Entrained Road Travel, Paved Road Dust (March 2018).
https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2018.pdf
5. Average vehicle weight based on EPA Emissions Classification for Heavy Duty Vehicle 7 (26,001 to 33,000 lbs), which assumes the gross vehicle weight of the trucks to be 33,000 lbs.
6. On-Site truck trips include delivery of renewable feedstock (25 trucks/day) and on-site movement of existing slop oil/vacuum trucks (7 trucks/day).
7. Conversion factors:
Global warming potential for methane: 21
Global warming potential for nitrous oxide: 310
2,000 pounds/ton
0.45359 kilograms/pound)
1,000 kilograms/metric ton

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A.2 Construction Emission Calculations

**Marathon - Martinez
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Table A.2-1a. Average Daily Construction Emissions Summary.

Martinez Facility										
Construction Component	Criteria Pollutant Emissions (lb/day)						GHG Emissions (Metric Tons/day)			
	NOx	SO2	CO	POC	PM10	PM2.5	CO2	CH4	N2O	CO2e
Off-road Diesel Construction Equipment	15.45	0.03	27.14	1.80	0.68	0.62				NA
On-road Motor Vehicles	0.45	0.01	0.21	0.02	0.41	0.07				NA
Fugitive PM from Material Movement					0.00	0.00				NA
Asphalt Paving Offgassing				0.00						NA
Architectural Coating Offgassing				0.00						NA
Average Daily Onsite Emissions (lb/day)	15.90	0.04	27.35	1.82	1.08	0.69				NA
Significance Threshold:	54.00	NA	NA	54.00	82.00	54.00				NA
Threshold Exceeded?	No	No	No	No	No	No				

Table A.2-1b. Total Construction Emissions Summary.

Martinez Facility										
Construction Component	Criteria Pollutant Emissions (Tons)						GHG Emissions (Metric Tons/Year)			
	NOx	SO2	CO	POC	PM10	PM2.5	CO2	CH4	N2O	CO2e
Off-road Diesel Construction Equipment	0.08	0.00	0.18	0.01	0.00	0.00	14.52	0.00	0.00	14.75
On-road Motor Vehicles	0.00	0.00	0.00	0.00	0.00	0.00	3.09	0.00	0.00	3.19
Fugitive PM from Material Movement					0.00	0.00				
Asphalt Paving Offgassing				-						
Architectural Coating Offgassing				-						
Total Construction Emissions	0.08	0.00	0.18	0.01	0.00	0.00	17.61	0.00	0.00	17.94
Significance Threshold:	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- Project construction is expected to take approximately: Months 1
- BAAQMD CEQA Guidelines define thresholds of significance for construction-related emissions on a daily average basis (See Table 2-4). No annual threshold exists.
- BAAQMD CEQA Guidelines (Section 2.6.2) have not defined a GHG threshold of significance for construction related emissions.
- The project does not include asphalt paving, or architectural coating.
- Conversion factors:
 Global warming potential for methane: 21
 Global warming potential for nitrous oxide: 310

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Table A.2-2. Off-Road Diesel Construction Equipment - Daily Average Emissions

	Category	Representative Equipment Model	Avg HP	Load Factor	Number of Units	Hours/Day	Emissions (lb/day)					
							POC	NOx	PM ₁₀	PM _{2.5}	CO	SO ₂
Month 1	Aerial Lifts	Aerial Lifts	46	0.31	1	10	0.09	1.02	0.03	0.02	1.07	0.00
Month 1	Air Compressors	Air Compressors	37	0.48	1	10	0.09	0.12	0.00	0.00	7.78	0.00
Month 1	Cranes	Cranes	367	0.29	1	10	0.48	4.48	0.21	0.20	3.22	0.01
Month 1	Excavators	Excavators	158	0.38	1	10	0.33	3.07	0.22	0.20	4.54	0.01
Month 1	Generator Sets	Generator Sets	84	0.74	1	10	0.11	1.15	0.02	0.02	1.57	0.00
Month 1	Skid Steer Loaders	Skid Steer Loaders	71	0.37	1	10	0.37	2.14	0.09	0.09	2.52	0.00
Month 1	Other General Industrial Equipment	Light Tower	88	0.34	1	10	0.23	2.38	0.09	0.09	2.26	0.00
Month 1	Telescopic Handler	Telescopic Handler	82	0.20	1	10	0.07	1.03	0.01	0.01	1.17	0.00
Month 1	Welders	Welders	46	0.45	1	10	0.04	0.06	0.00	0.00	3.01	0.00
Daily Average Total:							1.80	15.45	0.68	0.62	27.14	0.03
Daily Average							1.80	15.45	0.68	0.62	27.14	0.03

Notes:

1. Source for Equipment Load Factors: Load factors are based on *California Emissions Estimator Model (CalEEMod) User's Guide*, Appendix G, 2022, Table G-12 (OFFROAD Default Horsepower and Load Factors).
2. Source for emission factors and average HP: CARB Offroad2021 Database. <https://arb.ca.gov/emfac/offroad/> (accessed February 5, 2025)

Table A.2-4. On-Road Construction Equipment - Daily Average Emissions

	Category	Representative Equipment Model	Fuel	EMFAC Category	Number of Vehicles	Trips Per Day	Trip Length Two-Way	Round Trip Miles/Day	Emissions (lb/day)					
									POC	NOx	PM ₁₀	PM _{2.5}	CO	SO ₂
Month 1	Passenger Car	Light Duty Vehicle (< 8,500 lbs GVWR)	Gasoline	LDA	8	1	20	20	0.00	0.01	0.03	0.01	0.00	0.00
Month 1	Pickup Truck	Light Duty Trucks (< 8,500 lbs GVWR)	Diesel	LDT2	8	1	20	20	0.00	0.01	0.04	0.01	0.05	0.00
Month 1	Cement Truck	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR)	Diesel	T7 Single Concrete	1	1	40	40	0.00	0.13	0.12	0.02	0.07	0.00
Month 1	Dump Truck	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR)	Diesel	T7 Single Dump	1	1	40	40	0.01	0.18	0.12	0.02	0.07	0.00
Month 1	Vacuum Truck	Class 6 Medium Heavy-Duty Vehicles (19.5 - 26,000 lbs. GVWR)	Diesel	T6 Heavy	1	1	40	40	0.00	0.11	0.10	0.02	0.03	0.00
Daily Average Total:									0.02	0.45	0.41	0.07	0.21	0.01
Daily Average									0.02	0.45	0.41	0.07	0.21	0.01

Notes:
 1. Average daily emissions are based on the equipment list and estimated trip distances provided by the facility.

2. EMFAC2021 criteria pollutant and GHG emission factors are derived from the California Air Resources Board's EMFAC2021 2025-2027 emission estimates for BAAQMD Region. Source: California Air Resources Board, EMFAC2021 Web Database (v1.0.1) (undated), emissions data option, available at <https://ww2.arb.ca.gov/our-work/programs/msei/on-road-emfac> (accessed February 5, 2025). Data reflects the use of aggregated vehicle model years, vehicle speeds, grouped by Road Type)

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Table A.2-5. On-Road Construction Equipment - Total Construction Emissions

Month	Category	Representative Equipment Model	Fuel	EMFAC Category	Number of Vehicles	Total Project Trips	Trip Length Two-Way	Round Trip Miles/Project	Criteria Pollutant Emissions (Ton/Month)						GHG Emissions (MT/Year)			
									PM ₁₀	PM _{2.5}	CO	SO ₂	CO ₂	CH ₄	N ₂ O	CO ₂ e		
Month 1	Passenger Car	Light Duty Vehicle (< 8,500 lbs GVWR)	Gasoline	LDA	9	28	20	560	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	1.20
Month 1	Pickup Truck	Light Duty Trucks (< 8,500 lbs GVWR)	Diesel	LDT2	8	28	20	560	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.00	0.00	1.42
Month 1	Cement Truck	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR)	Diesel	T7 Single Concrete	1	2	40	80	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Month 1	Dump Truck	Class 8a and 8b Heavy-Duty Vehicles (>33,000 lbs. GVWR)	Diesel	T7 Single Dump	1	3	40	120	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.22	
Month 1	Vacuum Truck	Class 6 Medium Heavy-Duty Vehicles (19.5 - 26,000 lbs. GVWR)	Diesel	T6 Heavy	1	4	40	160	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.20	
Month Total:									0.00	0.00	0.00	0.00	0.00	0.00	3.09	0.00	0.00	3.19
Total On-Road Emissions:									0.00	0.00	0.00	0.00	0.00	0.00	3.09	0.00	0.00	3.19

Notes:

- EMFAC2021 criteria pollutant and GHG emission factors are derived from the California Air Resources Board's EMFAC2021 2025-2027 emission estimates for BAAQMD Region. Source: California Air Resources Board, EMFAC2021 Web Database (v1.0.1) (undated), emissions data option, available at <https://ww2.arb.ca.gov/our-work/programs/mse/on-road-emfac> (accessed February 5, 2025). Data reflects the use of aggregated vehicle model years, vehicle speeds, grouped by Road Type
- Conversion factors:
 Global warming potential for methane: 21
 Global warming potential for nitrous oxide: 310
 2,000 pounds/ton
 0.45359 kilograms/pound
 1,000 kilograms/metric ton
 4 week construction period
 7 construction work days/week

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Table A.2-7 Adjustment to Average Emissions

Addendum Table 1

Source Category	NOx	SO ₂	CO	ROG	PM10	PM2.5
Martinez Renewable Fuels	43.67	0.19	758.46	42.5	11.6	4.37
Avon Rail Extension	0.68	0	1.43	0.14	0.25	0.11
Avon Marine Oil Terminal Upgrades	0.41	0	3.55	0.94	0.09	0.02
Amorco Marine Oil Terminal Upgrades	0.73	0	3.17	3.57	0.1	0.04
Off-Site Construction Activities	7.35	0.03	11.91	0.7	2.02	0.43
Approved Project Impact:	52.84	0.23	778.53	47.86	14.06	4.97
Bay Area Air District CEQA Threshold (lb/day)	54	NA	NA	54	82	54
Significant:	No	No	No	No	No	No

Adjustment for the Modified Project to Martinez Renewable Fuels only

Source Category	NOx	SO ₂	CO	ROG	PM10	PM2.5
Martinez Renewable Fuels	42.46	0.19	726.67	11.40	8.18	2.59
Avon Rail Extension	0.68	0	1.43	0.14	0.25	0.11
Avon Marine Oil Terminal Upgrades	0.41	0	3.55	0.94	0.09	0.02
Amorco Marine Oil Terminal Upgrades	0.73	0	3.17	3.57	0.1	0.04
Off-Site Construction Activities	7.35	0.03	11.91	0.7	2.02	0.43
Approved Project Impact:	51.63	0.22	746.73	16.75	10.64	3.19
Bay Area Air District CEQA Threshold (lb/day)	54	NA	NA	54	82	54
Significant:	No	No	No	No	No	No

Comparison of Approved Project to Approved Project including Modified Project

	NOx	SO ₂	CO	ROG	PM10	PM2.5
Total Approved Project Equipment Emissions ⁽¹⁾	880.75	2.56	16440.69	250.75	39.52	35.17
Total Approved Project Off-Road Mobile Emissions ⁽¹⁾	79.92	1.67	245.48	9.54	147.62	23.74
Average Approved Project	43.67	0.19	758.46	11.83	8.51	2.68
Total Modified Project Equipment Emissions	15.45	0.03	27.14	1.8	0.68	0.62
Total Modified Project Off-Road Mobile Emissions	0.45	0.01	0.21	0.02	0.41	0.07
Adjusted Equipment including Modified Project	896.20	2.59	16467.83	252.55	40.20	35.79
Adjusted Mobile Sources including Modified Project	80.37	1.68	245.69	9.56	148.03	23.81
Average Equipment including Modified Project	38.97	0.11	715.99	10.98	1.75	1.56
Average Mobile Sources including Modified Project	3.49	0.07	10.68	0.42	6.44	1.04
Adjusted Average for Approved Project including Modified Project	42.46	0.19	726.67	11.40	8.18	2.59

(1) Data determined from DEIR Tables E.1-2 and E.1-4

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Appendix A.2