

## ENVIRONMENTAL CHECKLIST

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### SECTION I—PROJECT DESCRIPTION

1. **Project:** Hydrogen Electrolysis and Steam Methane Reformation Plant, City of Moreno Valley, Riverside County, California
2. **Applicant:**  
Stratos Fuel, Inc.  
2601 N Del Rosa Avenue, Suite 200  
San Bernardino, CA 92404  
909-317-0519  
  
Hydrogenics USA  
[Bel-service@hydrogenics.com](mailto:Bel-service@hydrogenics.com)
3. **Project Location:** Northeast corner of Heacock Street and Revere Place, Moreno Valley, Riverside County, California (APNs 0485-230-030 through -033). See Figure 1.
4. **Background:** A Negative Declaration (ND) for Master Plot Plan PA07-0035, Plot Plan PA07-0039, and Tentative Parcel Map No. 35822 (PA08-0021) was adopted by the City of Moreno Valley City Council on January 26, 2010 (approved project).<sup>1</sup> The approved project was proposed within Moreno Valley Industrial Area [Specific] Plan (SP #208). Master Plot Plan PA07-0035 included development of six industrial buildings ranging in size from 23,700 square feet to 47,160 square feet on Parcels 1 through 6 (APNs 0485-230-030 through -035) on an approximately 10.2-acre site. Plot Plan PA07-0039 included development of a 409,598 square foot high-cube warehouse distribution facility, which has been constructed and is in place, on approximately 19.14 acres; finally, Tentative Parcel Map No. 35822 (PA08-0021) reconfigured 21 parcels into six (6) parcels (existing APNs 0485-230-030 through -035) in support of Master Plot Plan PA07-0035 and one (1) parcel (existing APN 0482-230-036) in support of Plot Plan PA07-0039.
5. **Project Description:** The modified project comprises Parcels 1, 2, 3, and 4 (Assessor's Parcel Numbers (APNs) 0485-230-030 through -033) spanning 8.82 acres of the approved project site within the Moreno Valley Industrial Area [Specific] Plan (SP #208) Master Plot Plan PA07-0035.<sup>2</sup> The applicant proposes to change the anticipated uses of Parcels 1, 2, 3, and 4 of the Moreno Valley Industrial Park Master Plot Plan PA07-0035 from "light wholesale, storage, and distribution" to "heavy manufacturing" and "office, business, and professional" in order to facilitate a proposed 100 percent renewable hydrogen electrolysis and steam methane reformation facility (heavy manufacturing) and associated professional office campus (office, business, and professional) (See Figure 2).

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<sup>1</sup> *Initial Study and Negative Declaration for the Master Plot Plan PA07-0035, Plot Plan PA07-0039, and Tentative Parcel Map No. 35822 (PA08-0021).* City of Moreno Valley. Adopted January 26, 2010.

<sup>2</sup> The modified project would replace the equivalent of approximately 157,882 square feet of warehouse uses approved under the ND for the original Master Plot Plan PA07-0035.

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Although the proposed uses of Parcels 1, 2, 3, and 4 (APNs 0485-230-030 through -033) differ from those analyzed under the approved ND (i.e., “light wholesale, storage, and distribution” to “heavy manufacturing” and “office, business, and professional”), the proposed modified uses are consistent with the existing Industrial and 300-foot Residential Buffer Zone land use designations of SP #208 and the zoning classification under City Municipal Code Section 9.05.020 *Industrial (I) Districts*. Parcels 1, 2 and 3 (APNs 0485-230-030 through -0032) of the SP #208 Master Plot Plan PA07-0035 are located within the SP #208 Industrial Area, while Parcel 4 (APN 0485-230-033) is located within the SP #208 300-foot Residential Buffer Zone See Figure 3a. As defined by the Moreno Valley Industrial Area Plan (SP #208),<sup>3</sup> the modified project would entail development of a [heavy manufacturing] hydrogen electrolysis and steam methane reformation facility on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and the Stratos Fuel, Inc. corporate headquarters [professional office] campus on Parcel 4 (APN 0485-230-033). The modified project is consistent with the existing land use designations specified for the Industrial land use category and the 300-foot Residential Buffer Zone areas of SP #208.

At this time, no specific development proposal or site plan is available. A general description and outline is discussed for the purpose of providing a more focused analysis. The approximately 8.82-acre project site is proposed to be developed in three (3) phases (See Figure 3b).

**Phase 1** is comprised of: the 10,000 square-foot Stratos Fuel, Inc. corporate headquarters [professional office] campus and associated parking and landscaping areas on Parcel 4 (APN 0485-230-033) approximately 20,000 square feet of concrete area containing electrolyzers, storage units, and other equipment associated with the hydrogen electrolysis and steam methane reformation facility; driveway and landscape areas developed on Parcel 3 (APN 0485-230-032); and approximately 20,000 square feet of concrete area that would include a transfill station<sup>4</sup> comprised of four at-grade truck bays and two diaphragm compressors surrounded on three sides by a 10-foot-tall concrete masonry unit (CMU) wall developed on Parcel 2 (APN 0485-230-031).

**Phase 2** is comprised of an additional 20,000 square feet (approximate) of concrete area that would include the steam methane reformation equipment and materials plus driveway and landscape areas developed on Parcel 1 (APN 0485-230-030).

**Phase 3** is comprised of an additional 20,000 square feet (approximate) of concrete area to contain the liquid hydrogen equipment and materials associated with the hydrogen electrolysis and steam methane reformation facility plus driveway and landscape areas developed on Parcel 1 (APN 0485-230-030).

Although the project would not operate at full capacity until buildout of Phase 3, this analysis considers impacts to the environment under Phase 3 full-capacity conditions, which would be built-out per the phases described above in accordance with the development regulations and phasing plan outlined in SP #208. Project operations would not expand into subsequent phases unless and until the City’s utility infrastructure is already in place to support the City’s buildout. At buildout, the project is expected to generate up to 25 truck trips per day transporting the final product to customers. Up to 150,000 gallons of water would be used per day, of which approximately 66.6 percent (100,000 gallons) would be used to make hydrogen with 33.3 percent (50,000 gallons) captured, recycled, purified, and reused as part of subsequent batches.

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<sup>3</sup> *Moreno Valley Industrial Area Plan (Specific Plan 208)*. Industrial Land Use Table, Pages III-3 through III-5. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.

<sup>4</sup> A transfill station is the area where trucks are filled with hydrogen for offsite transport.

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One hundred percent of the facility's electricity will be offset by Stratos' alternative energy power purchase agreement (PPA). The PPA is composed of 140 megawatts of wind/solar energy over 30 years. The facility will be connected to electric grid allowing production at all times of the nameplate capacity<sup>5</sup> without being restricted by potential lack of solar or wind production at the energy facilities associated with the PPA. All utility infrastructure is available including renewable feedstock<sup>6</sup> with Moreno Valley Utility (MVU) that will allow Stratos Fuel to transfer its in-state PPAs directly to the hydrogen facility in compliance with the California Public Utilities Codes §399.12(e) and §399.16(b)(1)(A) for in-state renewable electricity generation. Having a steady flow of electricity from the grid will enable the plant to produce 24 hours per day, 7 days per week, making it the ideal scenario for hydrogen availability.

Operations on-site entail the production of hydrogen via electrolysis and steam methane reformation. Electrolysis is the process of using electricity to split water into hydrogen and oxygen. This reaction takes place within an electrolyzer unit. In a polymer electrolyte membrane (PEM) electrolyzer, the electrolyte is a solid specialty plastic material. Imported water reacts at the anode to form oxygen and positively charged hydrogen ions (protons). The electrons flow through an external circuit, and the hydrogen ions selectively move across the PEM to the cathode. At the cathode, hydrogen ions combine with electrons from the external circuit to form hydrogen gas. The hydrogen is stored, while the oxygen is released into the air. The project proposes five (5) on-site electrolyzers approximately 50-feet in length by 10 feet in width to be housed in a roofless structure comprised of perimeter concrete walls ranging in height between 8 to 14 feet in accordance with National Fire Protection Association (NFPA) 2 Hydrogen Technologies Code.

Most hydrogen produced today in the United States is made via steam methane reforming, a production process in which high-temperature steam (700°C–1,000°C) is used to produce hydrogen from a bio gas. In steam methane reforming, bio gas reacts with steam under 3–25 bar pressure (1 bar = 14.5 psi) in the presence of a catalyst to produce hydrogen and a relatively small amount of carbon dioxide. Steam reforming is endothermic, that is, heat must be supplied to the process for the reaction to proceed. Subsequently, in what is called the "water-gas shift reaction," the bio gas and steam are reacted using a catalyst to produce carbon dioxide and more hydrogen. In a final process step called "pressure-swing adsorption," carbon dioxide and other impurities are removed from the gas stream, leaving essentially pure hydrogen.<sup>7</sup>

Liquid hydrogen would be stored on-site in a new 18,750 gallon or about 5,000 kilogram liquid hydrogen tank (roughly 11,023 pounds). The liquid hydrogen stored at the site would be available for distribution by truck. Liquid hydrogen would be vaporized and loaded into trucks at one of the filling bays. Liquid hydrogen is noncorrosive. Special materials of construction are not required. However, because of its extremely cold temperature, equipment must be designed and manufactured of material that is suitable for extremely low temperature operation. Vessels and piping must be selected and designed to withstand the pressure and temperatures involved and comply with applicable codes and regulations.

The NFPA 2 code provides fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas as well as cryogenic liquid form. Hydrogen is environmentally safe, odorless, and non-toxic. In general, hydrogen is neither

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<sup>5</sup> Nameplate capacity means production totaling at least 1,000 kilograms per day of new 100 percent renewable hydrogen production that shall be dedicated to supplying in-state public hydrogen refueling stations for use in on-road fuel cell electric vehicles.

<sup>6</sup> A feedstock is any renewable, biological material that can be used directly as a fuel, or converted to another form of fuel or energy product (i.e., water).

<sup>7</sup> *Hydrogen Production: Natural Gas Reforming*. Office of Energy Efficiency & Renewable Energy. <https://www.energy.gov/eere/fuelcells/hydrogen-production-natural-gas-reforming> (Accessed May 24, 2018).

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more nor less hazardous than gasoline, propane, or methane. If hydrogen were to leak on-site, it would disperse into the air almost immediately because it is so light. As required by NFPA 2 and other regulations discussed in detail in Section IV(8) of this document, the proposed modified project shall be designed to prevent hydrogen from leaking and shall incorporate redundant systems to shut down automatically in the unlikely event an accident occurs. Stratos Fuel's on-site offices will monitor the facility both on-site and remotely by cameras and electronically 24 hours a day. Flame detection and hydrogen gas sensors shall be incorporated to ensure safe operating conditions. These elements, as well as programmed equipment alarms, will report back to a monitored systems control panel pursuant to International Fire Code (IFC) and NFPA 2 regulations.

Hydrogen will be stored on-site in its natural form as a gas as well as a cryogenic liquid. Gaseous hydrogen is stored predominately in steel cylinders at a pressure of 150-200 bar and at an ambient temperature of approximately 298 Kelvin (76.73 Fahrenheit). Hydrogen is liquefied by reducing its temperature to -253 Celsius (-423.4 Fahrenheit). Significant amounts of hydrogen can be stored within high-pressure storage tanks that can be situated above ground or underground, which is similar to the storage of natural gas. The construction material properties in above ground storage impose limitations on the quantity of gaseous hydrogen that can be stored and the hydrogen can be stored at an increased pressure in an underground pressure tank or underwater tank.

The most common conventional steel gaseous cylinders contain a volume of 40 liters and a pressure of 150 bar and in the last decade significant progress has been made in a move towards lightweight cylinders using chrome-molybdenum steel. The individual cylinders would be clustered together to be filled and released at the proposed transfill station through just one valve, and the cylinders are interconnected through high-pressure tubing. At full capacity, up to 25 truck trailers would be filled per day at the transfill station for distribution to local and regional hydrogen fueling stations to serve electric fuel cell vehicles.

The project site will include perimeter and on-site landscaping, as well as a minimum-8-foot-perimeter wall to be constructed in accordance with the design standards of the SP #208. Utility infrastructure will be constructed on-site to interconnect to the City's existing infrastructure within the City right-of-way on Heacock Street and Revere Place. Additionally, on-site bioswales will be incorporated into the project landscaping to ensure stormwater runoff from conversion of permeable surfaces to impermeable surfaces is managed in accordance with applicable regulations, as described in detail later in this document.

6. **Project Setting and Surrounding Land Uses:** The project site is currently undeveloped and is bounded to the north by vacant land, to the east by residential uses, to the south by a high-cube warehouse use across Revere Place, and to the west by the March Air Reserve Base across Heacock Street. Two street frontages (Heacock Street and Revere Place) exist along the project site's western and southern boundaries, respectively, and are improved with curbs, gutters, and streetlights (also sidewalk along Heacock Street).

The project site is currently vacant and undeveloped. Approximately 95 percent of the project site's ground surface is barren soil with intermixed ruderal (weedy) vegetation. The balance of the project site (i.e., sidewalk along Heacock Street, and curb and gutter along Heacock Street and Revere Place) has been developed with asphaltic concrete and Portland cement concrete pavements.

The proposed facility is located at the northerly tip of Moreno Valley's Business park/Industrial Area and is centrally located at the junction of two (2) major transportation corridors Interstate 215 and State Route 60. Two fire stations will service the facility: Fire Station 65 is within 0.5 mile to the north, and Fire Station 91 is within 1-mile to the southeast of the project site. All utility infrastructure is available for interconnection at the project site's perimeter along the City's right-of-way, including renewable feedstock with Moreno Valley

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Utility (MVU) that will allow the applicant to transfer its in-state [electrical] power purchase agreements (PPAs) directly to the hydrogen facility in accordance with the California Public Utilities Codes §399.12(e) and §399.16(b)(1)(A) for in-state renewable electricity generation.

The nearest sensitive receptors to the project site are single-family detached residential units adjacent to the eastern project site boundary. March Middle School (15800 Indian Street) is located approximately 0.26 mile (1,367 feet) east and Rainbow Ridge Elementary School (15950 Indian Street) is located approximately 0.27 mile (1,417 feet) southeast of the eastern project site boundary, while Moreno Valley Skate Park and athletic fields (15415 6th Street) is located 0.29 mile (1,543 feet) northwest of the northwest corner of the project site boundary. The nearest day care facility is Bramwell Day Care (24317 Dyna Place) located approximately 0.33 mile (1,750 feet) northeast of the northern project site boundary. The nearest elder care facility is the New Ideals Assisted Living Facility (24909 Nogal Street) located 1.42 miles (7,475 feet) northeast of the northeast corner of the project site boundary. The nearest medical facility is the U.S. HealthWorks Urgent Care Center (16420 Perris Boulevard) located 1 mile (5,300 feet) southeast of the southeast corner of the project site boundary.

In accordance with Moreno Valley's set back requirements as detailed in the City's Zoning Map dated November 2, 2017 and the SP #208 300-foot Residential Buffer Zone, the project site will be designed such that the proposed hydrogen electrolysis and steam methane reformation facility would be constructed within Parcels 1, 2, and 3 of the approved Master Plot Plan PA07-0035 (APNs 0485-230-030 through -0032) in an area of SP #208 that permits "heavy manufacturing" and farther away from the existing residential uses to the east. The associated Stratos Fuel, Inc. corporate headquarters office campus would be constructed within Parcel 4 of the approved Master Plot Plan PA07-0035 (APN 0485-230-033) within the SP #208 300-foot Residential Buffer Zone between the proposed hydrogen facility and the residential uses to the east to serve as a physical buffer that would protect residential surrounding areas from hazards, noise, odor, dust, smoke, truck traffic, and other objectionable influences.

7. **General Plan Designation:** Existing and Proposed: Business Park/Light Industrial (BP) (no change).
8. **Zoning Designation:** Existing and Proposed: Moreno Valley Industrial Area [Specific] Plan (SP #208) (no change).
9. **Basis for an Addendum:** The modified project is the subject of this Addendum. The proposed changes set forth under the modified project are summarized in Section I(5) and I(6), above. Prior to approval of subsequent actions that constitute a "project" under CEQA, the City of Moreno Valley (City) is required to determine whether the environmental effects of such actions are within the scope of prior environmental analysis, or whether additional environmental analysis is required. That decision is influenced by whether the subsequent actions result in new significant impacts or increase the severity of previously identified significant impacts.

Under CEQA, the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR or adopted Negative Declaration if only minor technical changes or additions to the prior environmental document are necessary or none of the conditions calling for preparation of a subsequent EIR or ND have occurred (CEQA Guidelines §§ 15162, 15164). Once an EIR has been certified or ND adopted, a subsequent EIR or ND is required only when the lead agency or responsible agency determines that one of the following conditions has been met:

- (1) Substantial changes are proposed in the project, or substantial changes occur with respect to the circumstances under which the project is undertaken, which require major

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revisions of the previous EIR or ND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects [CEQA Guidelines §15162(a)(1)&(2)];

- (2) 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 EIR was certified as complete or ND adopted, shows any of the following:
- a) The project will have one or more significant effects not discussed in the previous EIR or ND [CEQA Guidelines §15162(a)(3)(A)];
  - b) Significant effects previously examined will be substantially more severe than shown in the previous EIR or ND [CEQA Guidelines §15162(a)(3)(B)];
  - c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative [CEQA Guidelines §15162(a)(3)(C)]; or
  - d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR or ND would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative [CEQA Guidelines §15162(a)(3)(D)].

The City has evaluated the potential environmental impacts of the modified project as set forth below in Section IV. The City, acting as the Lead Agency, has determined that none of the CEQA conditions listed above apply and that an Addendum to the prior environmental documentation (ND for the Master Plot Plan PA07-0035, Plot Plan PA07-0039, and Tentative Parcel Map No. 35822 (PA08-0021)) is appropriate for the modified project and an Addendum is appropriate for compliance with CEQA as described in the CEQA Guidelines. An Addendum does not need to be circulated for public review, but rather can be attached to the prior environmental documentation [CEQA Guidelines §15164(c)]. Prior to initiating the modified project, the City will consider this Addendum together with the previously adopted ND (Master Plot Plan PA07-0035, Plot Plan PA07-0039, and Tentative Parcel Map No. 35822 (PA08-0021)) and will make a decision regarding the modified project [CEQA Guidelines §15164(d)].

**IMPORTANT NOTE:** In the following analysis, each environmental topic is evaluated by first describing the impacts of the original project (adopted ND analysis) and then an analysis of the proposed changes to the project (modified project analysis).



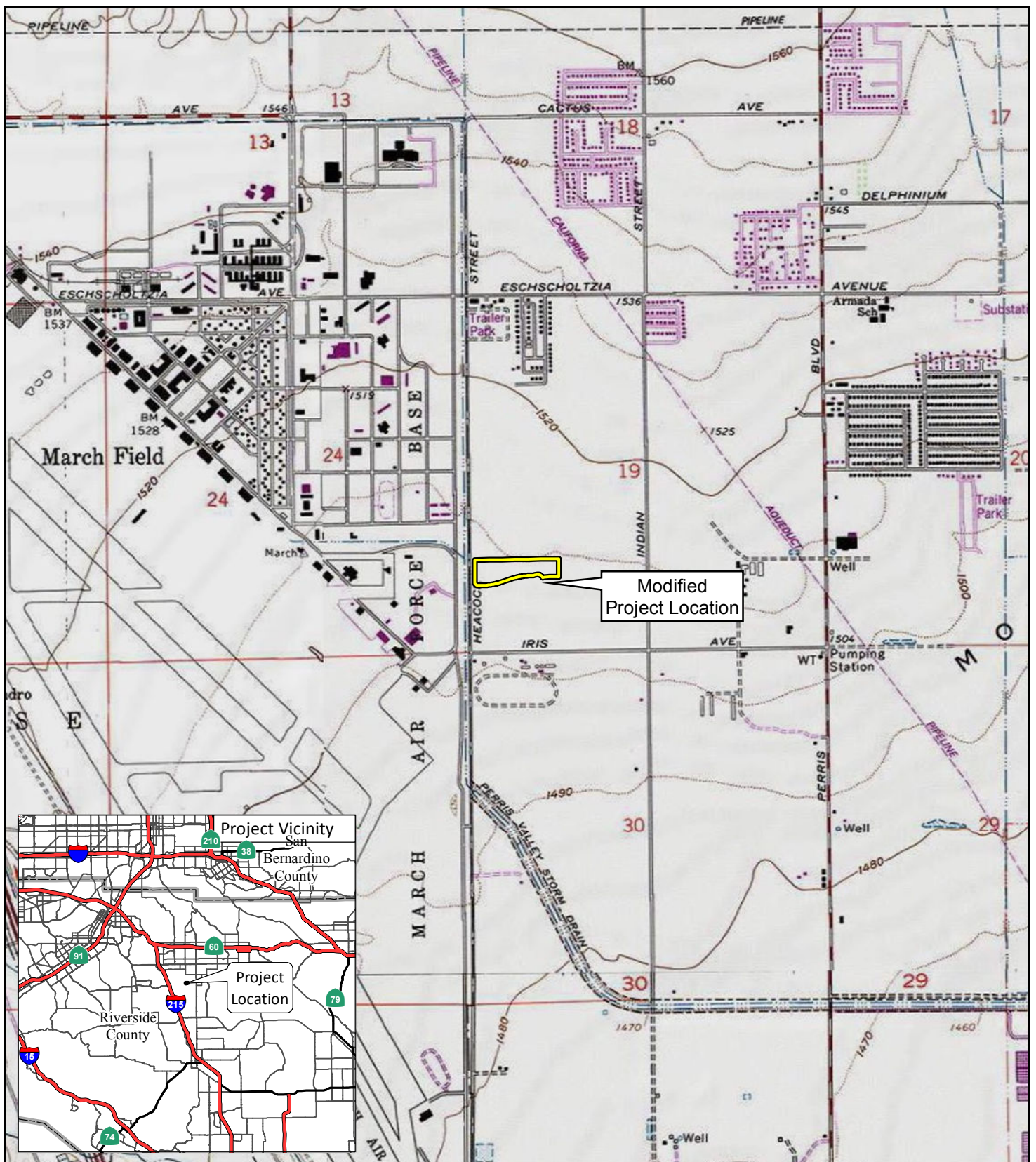
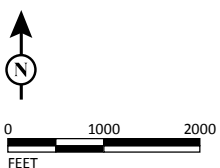


FIGURE 1

LEGEND

 Modified Project Location

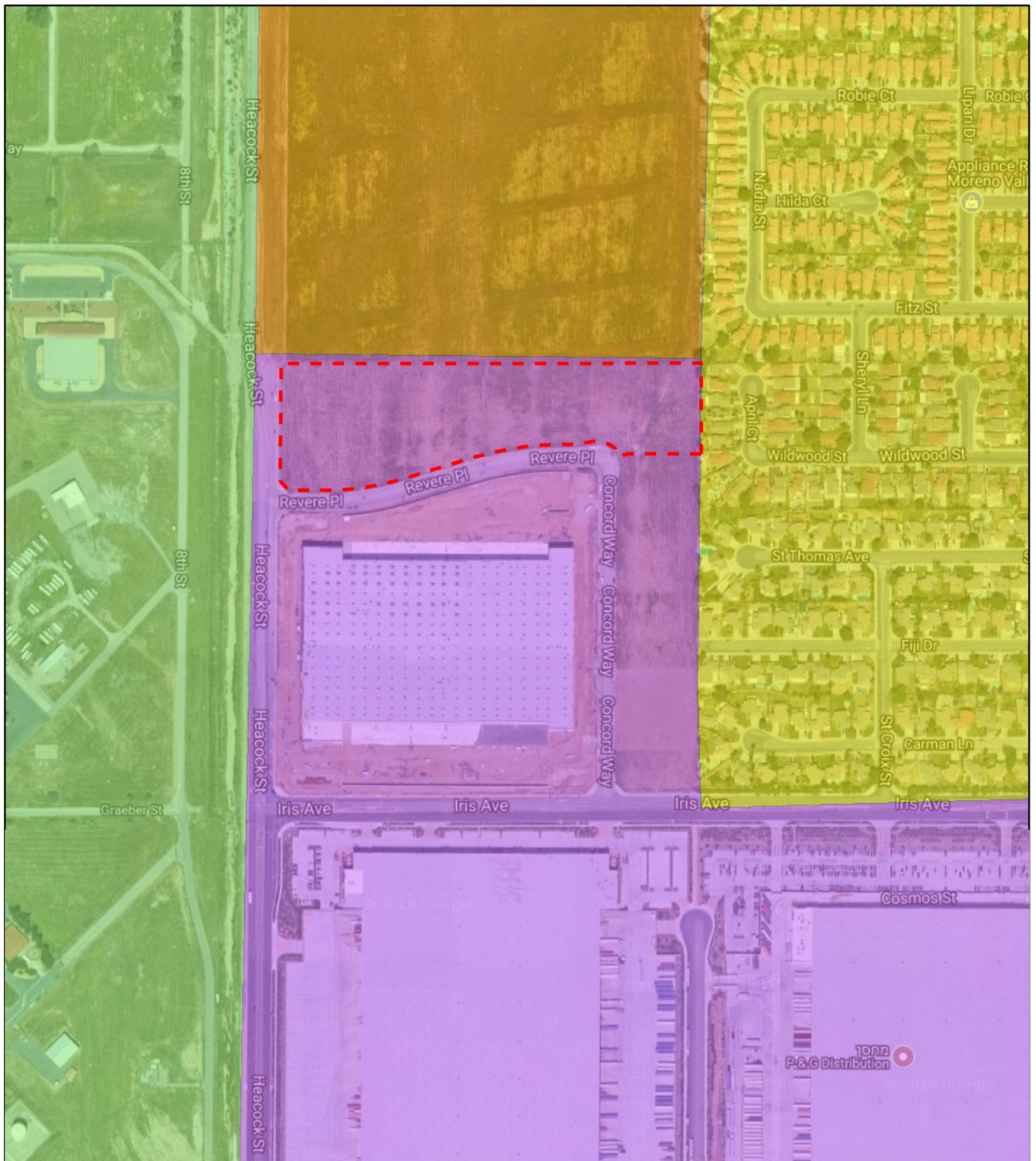


SOURCE: USGS 7.5' Quad - Sunnymead (1980)

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Hydrogen Electrolysis and Steam  
Methane Reforming Plant Project  
Modified Project Location



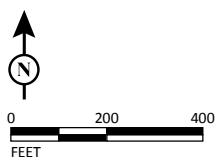


#### LEGEND

  Modified Project Location

#### Existing Land Uses

- Industrial
- March Air Reserve Base
- Residential
- Vacant



SOURCE: Google (2016)

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FIGURE 2

*Hydrogen Electrolysis and Steam  
Methane Reforming Plant Project*  
Modified Project Location and Existing Land Uses



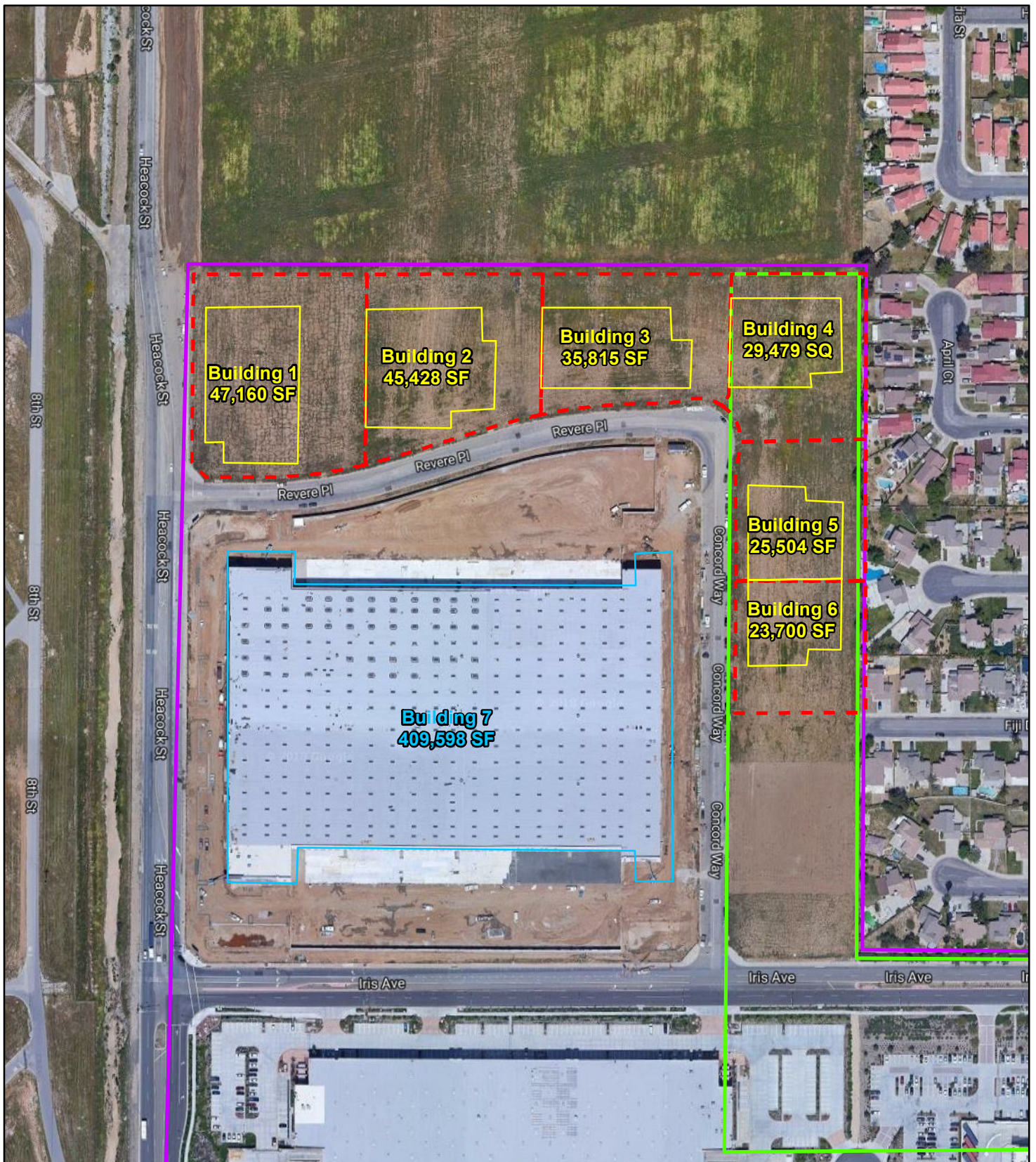


FIGURE 3a

LEGEND

  Project Parcels

  Approved Project Buildings

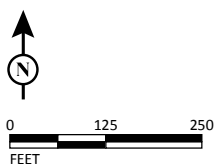
  Approved Building

  Completed Building

Specific Plans

  SP # 208 - Industrial Area

  SP # 208 - 300 ft Residential Buffer



SOURCE: Google (2016)

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*Hydrogen Electrolysis and Steam Methane Reforming Plant Project*  
Existing Approved Project  
(Master Area Plot Plan PA07-0035,  
Master Area Plot Plan PA07-0039,  
and Tentative Parcel Map No. 35822 (PA08-0021))





FIGURE 3b

LEGEND

- Modified Project Location
- Project Phases

Specific Plans

- SP # 208 - Industrial Area
- SP # 208 - 300 ft Residential Buffer



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SOURCE: Google (2016)

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*Hydrogen Electrolysis and Steam  
Methane Reforming Plant Project  
Proposed Modified Project*

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**SECTION II—ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a potentially significant impact as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                    | <input type="checkbox"/> Agricultural Resources             | <input type="checkbox"/> Air Quality            |
| <input type="checkbox"/> Biological Resources          | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology/Soils          |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality            | <input type="checkbox"/> Land Use/Planning      |
| <input type="checkbox"/> Mineral Resources             | <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population/Housing     |
| <input type="checkbox"/> Public Services               | <input type="checkbox"/> Recreation                         | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems     | <input type="checkbox"/> Mandatory Findings of Significance |   |
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**SECTION III—ENVIRONMENTAL DETERMINATION**

On the basis of the initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☒ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Prepared By:

Signature: Jeff Bradshaw

Date: 05/31/18

Name and Title: Jeff Bradshaw, Associate Planner

**Environmental Checklist****Project:** Hydrogen Electrolysis and Steam Methane Reformation Plant**Date:** May 31, 2018**SECTION IV—EVALUATION OF ENVIRONMENTAL IMPACTS**

	<i>Substantial Change in Project Requiring Major ND Revisions</i>	<i>Substantial Change in Circumstance Requiring Major ND Revisions</i>	<i>Information Showing Greater Effects than Previous ND</i>	<i>New Information Showing Ability to Reduce, but not Eliminate Effects in Previous ND</i>	<i>Less Than Significant Impact/No Changes or New Information Requiring Preparation of an MND or EIR</i>	<i>No Impact</i>
<b>1. AESTHETICS.</b> Would the project:						
<b>a.</b> Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Substantially damage scenic resources, including, but not limited to trees, rock outcroppings and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>2. AGRICULTURE RESOURCES.</b> Would the project ( <i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland</i> ):						
<b>a.</b> Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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	<i>Substantial Change in Project Requiring Major ND Revisions</i>	<i>Substantial Change in Circumstance Requiring Major ND Revisions</i>	<i>Information Showing Greater Effects than Previous ND</i>	<i>New Information Showing Ability to Reduce, but not Eliminate Effects in Previous ND</i>	<i>Less Than Significant Impact/No Changes or New Information Requiring Preparation of an MND or EIR</i>	<i>No Impact</i>
<b>b.</b> Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>c.</b> Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>3. AIR QUALITY.</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:						
<b>a.</b> Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>e.</b> Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<b>4. BIOLOGICAL RESOURCES.</b>						
Would the project:						
<b>a.</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>5. CULTURAL RESOURCES.</b>						
Would the project:						
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>6. GEOLOGY AND SOILS.</b> Would the project:						
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:						

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<ul style="list-style-type: none"> <li>Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Strong seismic ground shaking?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Seismic-related ground failure, including liquefaction?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Landslides?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>e.</b> Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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<b>7. HAZARDS AND HAZARDOUS MATERIALS.</b> Would the project:						
<b>a.</b> Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>e.</b> For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>f.</b> For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>g.</b> Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>h.</b> Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>8. HYDROLOGY AND WATER QUALITY.</b> Would the project:						
<b>a.</b> Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<b>c.</b> Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>e.</b> Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>f.</b> Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>g.</b> Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>h.</b> Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>i.</b> Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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j. Expose people or structures inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>9. LAND USE AND PLANNING.</b>						
Would the project:						
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>10. MINERAL RESOURCES.</b> Would the project:						
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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<b>11. NOISE.</b> Would the project result in:						
<b>a.</b> Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>e.</b> For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>f.</b> For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>12. POPULATION AND HOUSING.</b>						
Would the project:						
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>13. PUBLIC SERVICES.</b> Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:						
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<b>14. RECREATION.</b> Would the project:						
<b>a.</b> Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>b.</b> Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>15. TRANSPORTATION/TRAFFIC.</b> Would the project:						
<b>a.</b> Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>b.</b> Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<b>d.</b> Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>e.</b> Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>f.</b> Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>g.</b> Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>16. UTILITIES AND SERVICE SYSTEMS.</b> Would the project:						
<b>a.</b> Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>b.</b> Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>c.</b> Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>d.</b> Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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e. Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>17. MANDATORY FINDINGS OF SIGNIFICANCE.</b> Does the project:						
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	<i>Substantial Change in Project Requiring Major ND Revisions</i>	<i>Substantial Change in Circumstance Requiring Major ND Revisions</i>	<i>Information Showing Greater Effects than Previous ND</i>	<i>New Information Showing Ability to Reduce, but not Eliminate Effects in Previous ND</i>	<i>Less Than Significant Impact/No Changes or New Information Requiring Preparation of an MND or EIR</i>	<i>No Impact</i>
<b>b.</b> Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>c.</b> Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## SECTION V—DISCUSSION OF ENVIRONMENTAL IMPACTS

### 1. Aesthetics.

#### a. Would the project have a substantial adverse effect on a scenic vista?

Adopted ND Analysis: The project site is not located within an area identified in the City's General Plan as an aesthetic resource or significant visual resource. Rather, the project site is located in the northern limits of SP #208 in an area comprised of industrial land uses adjacent to residential land uses. The proposed warehouse buildings are designed and conditioned in a manner consistent with the design standards prescribed in SP #208 and the City's Municipal Code, which would assure the project would not have a substantial adverse effect on any scenic vistas in the area. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Scenic vistas are publicly accessible viewpoints that provide views of areas that exemplify a community's environment. Scenic vistas within the City include Box Springs Mountains and Reche Canyon area to the north, the "Badlands" to the east, and the Mount Russel area to the south.<sup>8</sup>

The project site is located on the northeast corner of Heacock Street and Revere Place. Surrounding land uses include vacant land to the north, residential uses to the east, a high-cube warehouse use across Revere Place to the south, and the March Air Reserve Base across Heacock Street to the west.

In accordance with Moreno Valley's set back requirements as detailed in the City's Zoning Map dated November 2, 2017, the Industrial Land Use Table of SP #208, and the SP #208 300-foot Residential Buffer Zone development standards,<sup>9</sup> the project site will be designed such that the proposed hydrogen electrolysis and steam methane reformation facility would be constructed within Parcels 1, 2, and 3 of the approved Master Plot Plan PA07-0035 (APNs 0485-230-030 through -032) in an area of SP #208 that permits "heavy manufacturing" and farther away from the existing residential uses to the east, while the associated Stratos Fuel, Inc. corporate headquarters office campus would be constructed within Parcel 4 of the approved Master Plot Plan PA07-0035 (APN 0485-230-033) within the SP #208 300-foot Residential Buffer Zone between the proposed hydrogen facility and the residential uses to the east to serve as a physical buffer that would protect residential surrounding areas from objectionable visual influences.

In accordance with the development regulations of the SP #208, all on-site structures would be constructed to heights commensurate with surrounding industrial development, and the entire project site would include a perimeter concrete masonry wall constructed to be architecturally integrated and compatible with the proposed on-site structures to screen equipment<sup>10</sup> from public view. Additionally, all on-site facilities, including the proposed corporate office campus structure, would be developed to incorporate requisite setbacks from the residential uses to the east and property lines to the west, north, and south, while integrating perimeter landscaping to screen the structures in accordance with City Municipal Code Section 9.05.040 *Industrial Site Development Standards*. Any visual obstruction the proposed corporate office campus structure would generate for the adjacent residential uses to the east would entail obstruction of the proposed hydrogen facility and the existing March Air Reserve Base (across Heacock Street to the west), neither of which are scenic vistas in the City.

Facilities proposed under the modified project would not expand to heights exceeding structures proposed and approved under the adopted ND. Therefore, impacts to scenic vistas would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

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<sup>8</sup> Chapter 7 – Conservation Element. City of Moreno Valley General Plan. July 11, 2006.

<sup>9</sup> Moreno Valley Industrial Area Plan (Specific Plan 208). Industrial Land Use Table, Pages III-3 through III-5. and III-12 through III-20. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.

<sup>10</sup> SP #208 defines equipment as external mechanical or electrical equipment, such as air conditioning units, fans, ductwork, cranes, storage tanks and satellite dish antennas.

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**b. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings and historic buildings within a state scenic highway?**

Adopted ND Analysis: The project site does not contain trees, rock outcroppings, or historic-era buildings, and it has been routinely disked for weed abatement. Additionally, no state scenic highways occur in proximity to the project site. Therefore, impacts to scenic resources within a state scenic highway would be **less than significant**. No mitigation is required.

Modified Project Analysis: Three scenic roadways/highways are located within the City, which include State Route 60 (SR-60), Moreno Beach Drive, and Gilman Springs Road,<sup>11</sup> all of which are over 3 miles respectively to the north, east, and northeast of the project site. The project site under the modified project is encompassed by the site analyzed under the adopted ND. Therefore, impacts to scenic resources within a state scenic highway would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?**

Adopted ND Analysis: The project is located in an industrial area surrounded by industrial, residential, and military (March Air Reserve Base) uses. The project as designed and conditioned is consistent with existing and proposed land uses in the vicinity of the project site; therefore, development of the project would not substantially degrade the existing visual character or quality of the site and its surroundings. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The project site under the modified project is encompassed by the site analyzed under the adopted ND. The modified project site is located on the northeast corner of Heacock Street and Revere Place and is comprised of sparse, weedy vegetation routinely disked for weed abatement. Additionally, evidence of domestic refuse dumping on-site can be observed along the project site's southern and western frontages. Surrounding land uses include vacant land to the north, residential uses to the east, a high-cube warehouse use across Revere Place to the south, and the March Air Reserve Base across Heacock Street to the west.

As detailed in response to Checklist Question 1(a), the project site will be designed such that the proposed hydrogen electrolysis and steam methane reformation facility would be constructed within Parcels 1, 2, and 3 of the approved Master Plot Plan PA07-0035 (APNs 0485-230-030 through -0032) in an area of SP #208 that permits "heavy manufacturing" and farther away from the existing residential uses to the east, while the associated Stratos Fuel, Inc. corporate headquarters office campus would be constructed within Parcel 4 of the approved Master Plot Plan PA07-0035 (APN 0485-230-033) within the SP #208 300-foot Residential Buffer Zone between the proposed hydrogen facility and the residential uses to the east to serve as a physical buffer that would protect residential surrounding areas from objectionable visual influences in accordance with Moreno Valley's set back requirements as detailed in the City's Zoning Map dated November 2, 2017, the Industrial Land Use Table of SP #208, and the SP #208 300-foot Residential Buffer Zone development standards.<sup>12</sup>

In accordance with the development regulations of the SP #208, all on-site structures would be constructed to heights commensurate with surrounding industrial development, and the entire project site would include a perimeter concrete masonry wall constructed to be architecturally integrated and compatible with the proposed on-site structures to screen equipment<sup>13</sup> from public view. Additionally, all on-site facilities, including the proposed corporate office campus structure,

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<sup>11</sup> Chapter 7 – Conservation Element. City of Moreno Valley General Plan. July 11, 2006.

<sup>12</sup> Moreno Valley Industrial Area Plan (Specific Plan 208). Industrial Land Use Table, Pages III-3 through III-5. and III-12 through III-20. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.

<sup>13</sup> SP #208 defines equipment as external mechanical or electrical equipment, such as air conditioning units, fans, ductwork, cranes, storage tanks and satellite dish antennas.

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would be developed to incorporate requisite setbacks from the residential uses to the east and property lines to the west, north, and south, while integrating perimeter landscaping to screen the structures in accordance with City Municipal Code Section 9.05.040 *Industrial Site Development Standards*. Any visual obstruction the proposed corporate office campus structure would generate for the adjacent residential uses to the east would entail obstruction of the proposed hydrogen facility and the existing March Air Reserve Base (across Heacock Street to the west).

Although the modified project would convert vacant land into an industrial use, the modified project would be developed in accordance with all applicable land use and zoning ordinances and design standards prescribed in SP #208, commensurate with the ordinances and design standards applied to development of the project site for industrial warehouses under the adopted ND. Therefore, impacts to the visual character or quality of the site and its surroundings would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?**

Adopted ND Analysis: The project site is vacant, and development would add sources of light and glare to the site and vicinity. Municipal Code requirements, including the shielding of lighting and restrictions on the intensity of exterior lighting would reduce impacts to surrounding properties. Additionally, the project site appears to be outside of the Palomar Lighting District. Therefore, impacts from light and glare would be **less than significant**. No mitigation is required.

Modified Project Analysis: The modified project site is located on the northeast corner of Heacock Street and Revere Place, and both of these roadways contain streetlights illuminating portions of the project site. Although the modified project would convert vacant land into an industrial use, which would increase the ambient nighttime lighting and glare on the project site, the modified project would be developed in accordance with all applicable land use and zoning ordinances and design standards prescribed in SP #208, as well as in accordance with City Municipal Code 9.08.100 *Lighting*, commensurate with the ordinances and design standards applied to development of the project site for industrial warehouses under the adopted ND. In accordance with the General Design Guidelines of the SP #208, the use of “full cut off” fixtures is recommended on properties adjacent to the March Air Reserve Base. Meanwhile, there is no indication in the City’s General Plan or Code of Ordinances that the project site is located within the Palomar Lighting District.<sup>14,15</sup> Through adherence with applicable land use and zoning ordinances and design standards, impacts from new sources of light or glare that would adversely affect daytime or nighttime views of the area would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

## 2. Agricultural Resources.

**a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

Adopted ND Analysis: The project site is not listed on the California Farmland Mapping and Monitoring Program as containing Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: As is the case with the project approved under the adopted ND, the project site under the modified project is not listed on the California Farmland Mapping and Monitoring Program as containing Prime Farmland, Unique Farmland, or Farmland of Statewide

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<sup>14</sup> Moreno Valley General Plan Final Program EIR. Section 5.11 Aesthetics. City of Moreno Valley, July 2006.

<sup>15</sup> Section 9.08.100-Lighting. Moreno Valley Municipal Code. <http://qcode.us/codes/morenovalley/> (Accessed May 23, 2018).

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Importance.<sup>16</sup> Therefore, impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

Adopted ND Analysis: The project site is not utilized for agriculture or under a Williamson Act contract. Additionally, there are no surrounding agricultural uses or nearby properties under Williamson Act contract. The City Municipal Code allows for agricultural uses such as crops in all zoning districts; therefore, the proposed warehouse facility would not conflict with existing zoning for agricultural use, nor would it impact properties under Williamson Act contract. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: As is the case with the project approved under the adopted ND, the project site is not utilized for agriculture or under a Williamson Act contract.<sup>17</sup> Additionally, there are no surrounding agricultural uses or nearby properties under Williamson Act contract. The City Municipal Code allows for agricultural uses such as crops in all zoning districts; therefore, impacts from conflict with existing zoning for agricultural use or Williamson Act contracts would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**c. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?**

Adopted ND Analysis: The analysis in the adopted ND concluded no existing or proposed agricultural land use designation surrounded the project site according to the City's General Plan. Additionally, the proposed warehouse uses approved under the adopted ND would not involve changes to the existing environment which would result in the conversion of farmland to non-agricultural use. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: As is the case with the project approved under the adopted ND, no existing or proposed agricultural land use designation surrounds the project site according to the City's General Plan. Although, the California Farmland Mapping and Monitoring Program identifies the site and the vast majority of the SP #208 as Farmland of Local Importance,<sup>18</sup> the project site is zoned SP #208 for industrial uses, and no agricultural activities occur on the project site or within any of the adjoining properties. Additionally, the City has no agricultural land use designations in its General Plan or zoning. The purpose and intent of the SP #208 is to increase flexibility in accommodating economic development opportunities through industrial and business parkland uses,<sup>19</sup> which are not conducive to the dedication of land for use as Farmland. Furthermore, implementation of the SP #208 will eventually replace any remaining agricultural uses within the plan area with employment uses consistent with the City General Plan and zoning designations.<sup>20</sup> Since the project site and surrounding properties are zoned SP #208 (or residential to the north and east, and military to the west) with no existing or planned land uses involving Farmland or any agricultural activities, impacts from the conversion of Farmland to non-

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<sup>16</sup> California Farmland Mapping and Monitoring Program. The California Resources Agency. <https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=6586b7d276d84581adf921de7452f765> (Accessed May 23, 2018).

<sup>17</sup> Riverside County Williamson Act FY 2015/2016. Sheet 1 of 3. California Department of Conservation. [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside\\_w\\_15\\_16\\_WA.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside_w_15_16_WA.pdf) (Accessed May 23, 2018).

<sup>18</sup> California Farmland Mapping and Monitoring Program. The California Resources Agency. <https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=6586b7d276d84581adf921de7452f765> (Accessed May 23, 2018).

<sup>19</sup> Moreno Valley Industrial Area Plan (Specific Plan 208). Industrial Land Use Table, Pages I-3 and I-4. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.

<sup>20</sup> *Ibid.* Page V-9.

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agricultural use would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**3. Air Quality.****a. Would the project conflict with or obstruct implementation of the applicable air quality plan?**

Adopted ND Analysis: The 2007 Air Quality Management Plan (AQMP) for the South Coast Air Basin (Basin) sets forth a comprehensive program that will lead the Basin into compliance with all federal and State air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, or evaluation of assumed emissions.

The 2007 AQMP was developed based on Southern California Association of Governments (SCAG) population projections for the region. The population projections made by SCAG are based on existing and planned land uses as set forth in the various general plans of local governmental jurisdictions within the region. The proposed project is consistent with the land use designation that has been in place for the last several iterations of the regional population projections and the AQMP. Since the project will be developed in accordance with the underlying assumptions of the AQMP, the project would not conflict with or obstruct implementation of the South Coast Air Quality Management District (SCAQMD) AQMP. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The modified project site is located in the Basin, which is under the jurisdiction of the SCAQMD. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP, which has a 20-year horizon for the Basin. The SCAQMD and SCAG must update the AQMP every three years.

Although the approved project under the adopted ND was analyzed against SCAQMD's 2007 AQMP, the current regional air quality plan is the Final 2016 AQMP adopted by the SCAQMD on March 10, 2017.<sup>21</sup> The Final 2016 AQMP proposes policies and measures currently contemplated by responsible agencies to achieve federal standards for healthful air quality in the Basin and those portions of the Salton Sea Air Basin that are under SCAQMD jurisdiction. This Final Plan also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. This Final Plan builds upon the approaches taken in the 2012 AQMP for the Basin for the attainment of the federal ozone air quality standard.<sup>22</sup> The Basin is currently a federal and State nonattainment area for particulate matter less than 10 microns in size (PM<sub>10</sub>), particulate matter less than 2.5 microns in size (PM<sub>2.5</sub>), and ozone (O<sub>3</sub>).

The Final 2016 AQMP proposes attainment demonstration of the federal PM<sub>2.5</sub> standards through a more focused control of sulfur oxides (SO<sub>x</sub>), directly-emitted PM<sub>2.5</sub>, nitrogen oxides (NO<sub>x</sub>), and volatile organic compounds (VOC). Consistency with the AQMP for the Basin means that a project would be consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards.

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<sup>21</sup> *Final 2016 Air Quality Management Plan*, South Coast Air Quality Management District, March 2016.

<sup>22</sup> *Final 2012 Air Quality Management Plan*, South Coast Air Quality Management District, February 2013.



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As discussed in response to Checklist Question 3(b), below, the modified project-specific short-term construction and long-term pollutant emissions would be less than the emissions thresholds established in the SCAQMD's *CEQA Air Quality Handbook*; therefore, the project would not result in an increase in the frequency or severity of any air quality standards violation and would not cause a new air quality standard violation.

The 2016 AQMP incorporates local General Plan land use assumptions and regional growth projections developed by SCAG to estimate stationary and mobile source emissions associated with projected population and planned land uses. If a new land use is consistent with the local General Plan and the regional growth projections adopted in the 2016 AQMP, then the added emissions are considered to have been evaluated, are contained in the 2016 AQMP, and would not conflict with or obstruct implementation of the regional 2016 AQMP.

Pursuant to California Government Code Section 65450 et seq., Specific Plans provide detailed land use and infrastructure plans and policies for a certain geographic area and must be consistent with an applicable General Plan. As stated previously, the modified project is consistent with the existing "heavy manufacturing" and "office, business, and professional" land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208. Therefore, the modified project is consistent with the land use assumptions (i.e., SP #208) of the City's General Plan. Implementation of the proposed project would not require the rezoning of the project site or an amendment to the City's General Plan. Since the proposed project is consistent with the existing General Plan land use designation and proposed in accordance with the SP #208, the proposed project is consistent with the 2016 AQMP, and impacts from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

Adopted ND Analysis: The project is within the jurisdiction of the SCAQMD, which has developed thresholds of significance for both regional and localized air quality impacts, with which the project must comply. An Air Quality Analysis was prepared for the project in April 2008 by LSA Associates, Inc. This study was updated by the consultant in December 2009 to reflect the most current modeling practices. The short-term and long-term construction emissions from the project were modeled by LSA Associates, Inc., using the URBEMIS2007 model and the EMFAC2007 model. Construction of the project was assumed to occur in three phases, beginning with Building #7, the large warehouse building on Parcel 7. Unmitigated maximum short-term daily emissions are all below applicable SCAQMD regional significance thresholds. In addition to the regional analysis, the project's emissions and impacts on a localized scale were analyzed. None of the project's emissions exceed the applicable SCAQMD localized significance thresholds.

Emissions of all criteria pollutants for the operation phase are below the SCAQMD regional thresholds. Additionally, the project's emissions were found not to cause an exceedance of the localized significance thresholds. According to the project traffic study, when project-generated traffic is added to intersections in the project vicinity, eight intersections will fall below acceptable levels of service. Therefore, a CO hotspots analysis was performed. As determined by the project air study, the project will not cause an exceedance of any State or federal CO standard and will not create a CO hotspot at any of the intersections in the project vicinity. As with all construction, this project will be required to comply with regional rules that assist in reducing short term air pollutant emissions. Implementation of dust suppression techniques consistent with SCAQMD Rule 403 can reduce dust generation (and thus the PM<sub>10</sub> component).

In addition, during construction, compliance with the SCAQMD Rule 1113 on the use of architectural coatings would be considered sufficient. Emissions associated with architectural

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coatings should be further reduced by using precoated/natural colored building materials, using water-based or low VOC coating, and using coating transfer or spray equipment with high transfer efficiency. The project has been conditioned for compliance with both Rule 403 and Rule 1113.

As a proposed warehouse facility, the project will result in an increase in diesel particulate matter (DPM) emissions from the diesel trucks serving the facility. Considering existing residential uses located immediately to the east and proposed residential uses to the north, a Health Risk Assessment (HRA) was performed for the project to determine the potential cancer risks and non-cancer risks to the residents in the project vicinity. SCAQMD recommends that a threshold of 10 in one million be used to determine the significance of cancer risks. The HRA found that the long-term operational DPM emissions from the project would result in a maximum cancer risk of 6.3 in one million for an off-site residential receptor, which is less than the SCAQMD threshold of 10 in one million; therefore, cancer risks from project-generated DPM emissions are less than significant.

For non-cancer risks, SCAQMD recommends using a Hazard Index (HI) of 1.0 to determine the significance of non-cancer risk. The project-generated DPM emissions will result in a HI of 0.004. Therefore, non-cancer risks are less than one percent of the SCAQMD recommended threshold from project operation and are **less than significant**. No mitigation is required.

**Modified Project Analysis:** SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety pursuant to Section 109 of the Federal Clean Air Act (CAA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks. As part of the assessment to air quality from development of the proposed modified project, LSA Associates, Inc. prepared an updated air quality and greenhouse gas (GHG) analysis (Appendix A) to evaluate the emissions that would occur under the modified project compared to the approved project emissions. Guidelines identified by the SCAQMD in its *CEQA Air Quality Handbook* and associated updates were followed in the Air Quality and Greenhouse Gas Analysis.

Table 3.A lists the SCAQMD CEQA significance thresholds for construction and operational emissions. These thresholds are designed to protect the health and welfare of the populace with a reasonable margin of safety.

**Table 3.A: Regional Thresholds for Construction and Operational Emissions**

	Pollutant Emissions Threshold (lbs/day)					
	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: Table A, *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. May 29, 2018. (Appendix A).

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxides

PM<sub>10</sub> = particulate matter less than 10 microns in size

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compounds

Projects in the Basin with construction-related emissions or operational-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. The most recent version of CalEEMod (Version 2016.3.2) was used to calculate the construction and operational emissions associated with the modified project.

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**Construction:** The construction schedule and equipment was based on CalEEMod defaults for the land use and site size, with modifications based on the project plans. In accordance with the approved project, the proposed modified project would be conditioned to comply with both Rule 403 and Rule 1113 for the reduction of PM<sub>10</sub> and VOC, respectively. Table 3.B lists the construction emissions. No pollutant emissions rates would exceed their respective SCAQMD threshold.

**Table 3.B: Short-Term Regional Construction Emissions**

Construction Phase	Total Regional Pollutant Emissions, lbs./day							
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	Fugitive PM <sub>10</sub>	Exhaust PM <sub>10</sub>	Fugitive PM <sub>2.5</sub>	Exhaust PM <sub>2.5</sub>
Site Preparation	2	24	13	<1	<1	<1	<1	<1
Grading	2	24	11	<1	3	1	1	1
Building Construction	3	23	19	<1	<1	1	<1	1
Paving	1	13	13	<1	<1	<1	<1	<1
Architectural Coating	56	2	2	<1	<1	<1	<1	<1
<b>Peak Daily</b>	<b>56</b>	<b>24</b>	<b>19</b>	<b>&lt;1</b>	<b>4</b>		<b>2</b>	
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>		<b>55</b>	
<b>Significant Emissions?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		<b>No</b>	

Source: Table B, *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. May 29, 2018. (Appendix A).

CO = carbon monoxide  
lbs./day = pounds per day

NO<sub>x</sub> = nitrogen oxides

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

VOC = volatile organic compounds

SCAQMD = South Coast Air Quality Management District

SO<sub>x</sub> = sulfur oxides

PM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD published its Final Localized Significance Threshold (LST) Methodology in June 2003 and updated it in July 2008, recommending that all air quality analyses include an assessment of impacts on the air quality of nearby sensitive receptors. The nearest sensitive receptors are single-family residential uses adjacent to the east of the modified project site. In accordance with the SP #208 300-foot Residential Buffer Zone, proposed uses within 300 feet of the existing residences entail the Stratos Fuel, Inc. corporate office campus. The nearest heavy manufacturing uses involving hydrogen production would occur in Parcel 3 via the electrolysis process described in Section I(5) approximately 375 feet west of the residential uses (See Figure 3b).

Per the SCAQMD LST guidance, for receptors less than 82 feet (25 meters) away, LST screening thresholds at 82 feet (25 meters) are used as the SCAQMD-recommended LST thresholds.<sup>23</sup> Table 3.C shows the updated on-site localized emissions during construction. None of the construction emission rates would exceed the LSTs for the existing sensitive receptors within 82 feet to the east of the project site.

**Table 3.C: Construction Localized Impacts Analysis**

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
On-Site Emissions	24	16	4	2
LST Thresholds	237	1,346	11	7
<b>Significant Emissions?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Table C, *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. May 29, 2018. (Appendix A).

Note: Source Receptor Area – Perris Valley, 4 acres, receptors at 25 meters. 4 acre

<sup>23</sup> Guidance for Localized Significance Thresholds. South Coast Air Quality Management District. July 2008, Updated October 2009.

**Environmental Checklist****Project:** Hydrogen Electrolysis and Steam Methane Reformation Plant**Date:** May 31, 2018**Table 3.C: Construction Localized Impacts Analysis**

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>

thresholds derived by interpolating the 2- and 5-acre thresholds.

CO = carbon monoxide

NO<sub>x</sub> = nitrogen oxides

lbs/day = pounds per day

LST = local significance threshold

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in sizePM<sub>10</sub> = particulate matter less than 10 microns in size

**Operations:** In addition to short-term construction emissions, operation of the proposed modified project would also generate air emissions over the long-term. Table 3.D lists the operational emissions from the proposed modified project compared to the previously approved project emissions. The previously approved analysis estimated that there would be 2,031 daily vehicle trips. The proposed modified project would have up to 50 office staff and 5 to 25 daily hydrogen distribution truck trips up to 100 miles, with an average trip length of 40 miles, based on anticipated haul destinations. While the hydrogen electrolysis process uses a large amount of electricity, the facility's electricity would be 100% renewable and sourced from Stratos' in-state 140MW wind/solar 30-year power purchase agreement (PPA) pursuant to California Public Utilities Codes §399.12(e) and §399.16(b)(1)(A) for in-state renewable electricity generation.

The steam methane reformation (SMR) portion of the project would combust approximately 59.06 million British Thermal Units (mmBtu) per hour (hr) of natural gas to produce hydrogen, and therefore emitting criteria pollutants listed in Table 3.D. Nevertheless, as shown in Table 3.D, the proposed modified project would have substantially lower operational emissions from all source categories that the previously approved project. This is due to the much lower vehicle use (both cars and trucks) and that all electricity would be obtained from 100 percent renewable sources (i.e., in-state wind and solar facilities).

**Table 3.D: Regional Operational Emissions**

Source	Pollutant Emissions, lbs/day					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Previously Approved Land Use (From April 2008 Air Quality Report for the Adopted ND)</b>						
Stationary Sources	15	3.7	7.6	<1	0	0
Mobile Sources	26	51	240	<1	46	33
<b>Total Approved Emissions</b>	<b>41</b>	<b>54</b>	<b>248</b>	<b>&lt;1</b>	<b>46</b>	<b>33</b>
<b>Proposed Modified Project (Hydrogen Plant) Scenario</b>						
Stationary (Area) Sources	3	<1	<1	0	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Mobile Sources	<1	2	4	<1	1	<1
Steam Methane Reformer	8	28	63	2	11	11
Truck-Loading Equipment	<1	3	2	<1	<1	<1
<b>Total Modified Project Emissions</b>	<b>11</b>	<b>34</b>	<b>71</b>	<b>2</b>	<b>13</b>	<b>12</b>
<b>Net Emissions Change</b>	<b>-30</b>	<b>-20</b>	<b>-177</b>	<b>2</b>	<b>-33</b>	<b>-21</b>
<b>SCAQMD Thresholds</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>Emissions Exceed Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Table E, *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. May 29, 2018. (Appendix A).

Note: Column totals may not add up due to rounding up of model results.

CO = carbon monoxide

PM<sub>10</sub> = particulate matter less than 10 microns in size

lbs/day = pounds per day

SCAQMD = South Coast Air Quality Management District

NO<sub>x</sub> = nitrogen oxidesSO<sub>x</sub> = sulfur oxidesPM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

VOC = volatile organic compounds

The only known project-related emissions of TAC would be the diesel exhaust from the haul trucks and the combustion of natural gas in the SMR. The PM<sub>10</sub> emissions shown in Table 3.D for

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mobile sources would include all truck exhaust emissions, which when combined with the SMR emissions would total approximately 12 pounds per day of PM<sub>10</sub>, well below the SCAQMD threshold of 150 pounds per day, which is designed to protect the health and welfare of the populace with a reasonable margin of safety.

The installation of equipment related to electrolysis, steam methane reformation, and cryogenic liquid hydrogen, or any other stationary equipment proposed as part of the modified project, would require a permit from the SCAQMD pursuant to Title V of the CAA to operate in the State and would be subject to SCAQMD Regulation IX, *Source Specific Standards*, and SCAQMD Regulation XIII, *New Source Review*. Specific SCAQMD rules applicable to the modified project include, but are not limited to, Rule 1118 for control of emission from refinery flares, Rule 1146 for the SMR consuming more than 5 mmBtu/hr, Rule 1189 for the control of emissions of VOCs, and Rule 409 for the control of particulate matter from natural gas.

Once a final Title V permit is issued, it does not need to be renewed until five years from the effective date. The modified project must comply with all new periodic monitoring and recordkeeping requirements and may be required to comply with more than one version of the same SCAQMD rule. Also, the modified project would be subject to reporting requirements such as deviation (non-compliance) reports, semi-annual monitoring reports and annual compliance certification reports. Title V requires additional periodic monitoring for the State Implementation Plan-approved, federally enforceable rules that do not contain sufficient monitoring requirements to assure compliance with the emission limitations or other requirements. The SCAQMD has developed guidelines for periodic monitoring, testing, and recordkeeping requirements that may be incorporated in Title V permits.

The permitting process would be separate from the general occupancy permits and entitlements issued by the City and would provide controls for emissions associated with any new stationary source equipment proposed under the modified project. Compliance with SCAQMD Regulation IX, *Source Specific Standards*, and SCAQMD Regulation XIII, *New Source Review*, would ensure all applicable emission standards are met, and impacts from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?**

Adopted ND Analysis: The South Coast Air Basin is in non-attainment status for ozone, carbon monoxide (CO), and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>). CEQA Section 21100 (e) addresses evaluation of cumulative effects, allowing the use of approved land use documents in a cumulative impacts analysis. CEQA Guidelines Section 15064 (h)(3) further stipulates that for an impact involving a resource that is addressed by an approved plan or mitigation program, the lead agency may determine that a project's incremental contribution is not cumulatively considerable if the project complies with the adopted plan or program. In addressing cumulative effects for air quality, the AQMP is the most appropriate document to use because the AQMP sets forth a comprehensive program that will lead the Basin, including the project area, into compliance with all federal and State air quality standards. The AQMP compliance program includes control measures and related emission reduction estimates based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments.

Since the proposed project is consistent with the land use designation considered in the underlying assumptions of the most recent AQMP and the project, as conditioned, would not generate significant pollutant levels on an individual basis, it is appropriate to conclude that the proposed project would not result in a cumulatively considerable increase in criteria pollutant

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emissions for which the Basin is in non-attainment status.

The Air Quality Analysis included an evaluation of potential significant impacts to global climate change that could result from the implementation of the project. As concluded in the evaluation, project related GHG emissions and their contribution to global climate change in California are less than significant and less than cumulatively considerable because the project's impacts alone would not cause or significantly contribute to global climate change and the project's contribution from construction emissions is short term and would cease after project construction is completed. The project would not result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals of AB 32 or other State regulations. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The cumulative impacts analysis is based on projections in the regional AQMP. As described in the consistency analysis presented in response to Checklist Question 3(a), the modified project is consistent with the existing "heavy manufacturing" and "office, business, and professional" land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208. Therefore, the modified project is consistent with the land use assumptions (i.e., SP #208) of the City's General Plan. Implementation of the proposed project would not require the rezoning of the project site or an amendment to the City's General Plan or SP #208. Since the proposed project is consistent with the existing General Plan land use designation and proposed in accordance with the SP #208, the proposed project is consistent with the 2016 AQMP.

The City's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the 2016 AQMP. In addition, the proposed modified project is not considered a regionally significant project (e.g., industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or encompassing more than 650,000 square feet of floor area) pursuant to CEQA Section 15206 and does not meet SCAG's Intergovernmental Review criteria.

Further, as discussed in response to Checklist Question 3(b), the proposed modified project would not increase the frequency or severity of an air quality standard violation or cause a new violation. As detailed in response to Checklist Question 15(a) and (b), the proposed project would not result in any level of service (LOS) change or intersection delay that would exceed those anticipated under the approved project in accordance with the adopted ND; therefore, the combined traffic effects of related projects would be **less than significant**.

Although the approved project under the adopted ND did not include a quantified GHG emissions analysis, construction activities would also result in emissions of GHG. Using the same assumptions and air quality model as above, Table 3.E lists the total GHG emissions during construction. Rather than examine the significance of these construction GHG emissions, SCAQMD has directed that the construction emissions be amortized over the lifetime of the project and then combined with the operational GHG emissions to determine significance. In the absence of project-specific information, SCAQMD suggests assuming a project lifetime of 30 years.

**Table 3.E: Short-Term Regional Construction Greenhouse Gas Emissions**

Construction Phase	Peak Annual Emissions (MT/yr)			Total Emissions per Phase (MT CO <sub>2</sub> e)
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
2018				
Site Preparation	3	<1	0	4
Grading	6	<1	0	6
Building Construction	158	<1	0	159
2019				

**Environmental Checklist****Project:** Hydrogen Electrolysis and Steam Methane Reformation Plant**Date:** May 31, 2018**Table 3.E: Short-Term Regional Construction Greenhouse Gas Emissions**

Construction Phase	Peak Annual Emissions (MT/yr)			Total Emissions per Phase (MT CO <sub>2</sub> e)
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
Building Construction	188	<1	0	189
Paving	9	<1	0	9
Architectural Coating	2	<1	0	2
<b>Total Construction Emissions</b>				<b>367</b>
<b>Total Construction Emissions Amortized over Project Lifetime (30 years)</b>				<b>12</b>

Source: Table D, *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. May 29, 2018. (Appendix A).

CH<sub>4</sub> = methane

CO<sub>2</sub> = carbon dioxide

CO<sub>2</sub>e = carbon dioxide equivalent

MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent

MT/yr = metric tons per year

N<sub>2</sub>O = nitrous oxide

Running the CalEEMod model with the same parameters used in the analysis for the approved project produced the operational GHG emissions shown in Table 3.F. The GHG emission estimates presented in Table 3F show the GHG emissions associated with the level of development envisioned by the proposed modified project at full capacity (Phase 3) conditions with the amortized short-term construction incorporated.

**Table 3.F: Project Operational Greenhouse Gas Emissions**

Source	Pollutant Emissions (MT/yr)					
	Bio-CO <sub>2</sub>	NBio-CO <sub>2</sub>	Total CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>GHG Emissions Based on Previously Approved Land Use (From April 2008 Air Quality Report for the Adopted ND)</b>						
Area Sources	0	<1	<1	<1	0	<1
Energy Sources	0	372	372	<1	<1	373
Mobile Sources	0	3,888	3,888	<1	0	3,893
Truck-Loading Equipment	0	140	140	<1	0	141
Waste Sources	78	0	78	5	0	194
Water Usage	30	393	423	3	<1	523
<b>Total Approved Emissions</b>	<b>108</b>	<b>4,793</b>	<b>4,901</b>	<b>8</b>	<b>0</b>	<b>5,125</b>
<b>Proposed Modified Project (Hydrogen Plant) Scenario</b>						
Construction Emissions Amortized 30 Years	0	12	12	<1	0	12
<b>Operational Emissions</b>						
Area Sources	0	<1	<1	<1	0	<1
Energy Sources	0	193	193	<1	<1	194
Mobile Sources	0	177	177	<1	0	177
Truck-Loading Equipment	0	35	35	<1	0	35
Waste Sources	30	0	30	2	0	73
Water Usage	9	0	9	<1	<1	37
<b>Total Project Emissions</b>	<b>38</b>	<b>417</b>	<b>455</b>	<b>2</b>	<b>0</b>	<b>529</b>
<b>Net GHG Emissions Change</b>	<b>-70</b>	<b>-4,376</b>	<b>-4,446</b>	<b>-6</b>	<b>0</b>	<b>-4,596</b>

Source: Table F, *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. May 29, 2018. (Appendix A).

Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

Bio-CO<sub>2</sub> = biologically generated CO<sub>2</sub>

CH<sub>4</sub> = methane

CO<sub>2</sub> = carbon dioxide

CO<sub>2</sub>e = carbon dioxide equivalent

MT/yr = metric tons per year

N<sub>2</sub>O = nitrous oxide

NBio-CO<sub>2</sub> = Non-biologically generated CO<sub>2</sub>

Table 3.F shows that the proposed modified project would generate far lower GHG emissions than the approved project would have. The SCAQMD has an applicable GHG emissions threshold of 10,000 metric tons per year (MT/yr) for industrial uses subject to Title V permitting. Table 3.F shows that the proposed modified project would generate 529 MT/yr of GHG, less than



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this SCAQMD threshold. Additionally, this level of GHG emissions for the modified project is below the level of emissions for the previously approved land use that was included in the Moreno Valley Energy Efficiency and Climate Action Strategy (EECAS) and Western Riverside Council of Governments (WRCOG) Sub-Regional Climate Action Plan (CAP). Therefore, the proposed modified project does not conflict with these plans.

Because, 1) there is no cumulative significant impact, 2) the proposed modified project does not propose a land use amendment or zone change, 3) the modified project is proposed in accordance with the SP #208 and is consistent with the growth assumptions in the City's General Plan and the regional AQMP, and 4) the modified project's GHG emissions would be less than significant and not conflict with the City's EECAS or WRCOG's CAP, the proposed modified project's cumulatively considerable contribution to criteria pollutants that are in nonattainment status in the South Coast Air Basin would be **less than those identified in the previously adopted ND** (i.e., less than significant). No mitigation is required.

### d. Expose sensitive receptors to substantial pollutant concentrations?

Adopted ND Analysis: There are sensitive receptors located directly adjacent to the project site to the east. However, according to the project-specific air quality impact analysis, with conditions of approval, construction and operational emissions from the project have been shown to be less than the applicable SCAQMD thresholds of significance on both the regional and localized level (see IV(3)(b) above). Additionally, diesel particulate emissions generated by the project will not expose sensitive receptors to significant cancer risks (see response to Checklist Question 3(b)).

Modified Project Analysis: The modified project would replace the equivalent of approximately 157,882 square feet of the total 616,684 square feet (approximately 25.6 percent) of warehouse uses approved under the ND for the original Master Area Plot Plan PA07-0035. As detailed in response to Checklist Question 15(a), the resulting trip generation for the portion of the approved project being modified is approximately 730 trips per day,<sup>24</sup> with 146 trips<sup>25</sup> attributed to trucks. Conversely, the proposed modified project would develop approximately 90,000 square feet of heavy manufacturing and office uses, employing approximately 50 people and generating approximately 25 truck trips per day (primarily between the hours of 7 a.m. and 10 p.m. with some trips possibly occurring overnight) at full-capacity operations. Therefore, the trip generation associated with the modified project would be significantly less than the equivalent trip generation for the project approved under the ND, and it is reasonable to conclude that levels of DPM from freight trucks would be less under the proposed modified project and corresponding health risks associated with DPM from freight trucks also would be less under the proposed modified project when compared to the portion of the approved project being modified.

As detailed in Table 3.C of response to Checklist Question 3(b), construction-related emissions would not exceed SCAQMD LST for the existing sensitive receptors within 82 feet (25 meters) to the east of the project site. The only known project-related operational emissions of TAC would be the diesel exhaust from the haul trucks and the combustion of natural gas in the SMR. The PM<sub>10</sub> emissions shown in Table 3.D for mobile sources would include all truck exhaust emissions, which when combined with the SMR emissions would total approximately 12 pounds per day of PM<sub>10</sub>, well below the SCAQMD threshold of 150 pounds per day, which is designed to protect the health and welfare of the populace with a reasonable margin of safety.

The installation of equipment related to electrolysis, steam methane reformation, and cryogenic liquid hydrogen, or any other stationary equipment proposed as part of the modified project, would require a permit from the SCAQMD pursuant to Title V of the CAA to operate in the State and would be subject to SCAQMD Regulation IX, *Source Specific Standards*, and SCAQMD

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<sup>24</sup>  $2,853 \times 0.256 = 730$  trips per day

<sup>25</sup>  $572 \div 2,853 = 0.20 \times 730 = 146$  truck trips per day

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Regulation XIII, *New Source Review*. Specific SCAQMD rules applicable to the modified project include, but are not limited to, Rule 1118 for control of emission from refinery flares, Rule 1146 for the SMR consuming more than 5 mmBtu/hr, Rule 1189 for the control of emissions of VOCs, and Rule 409 for the control of particulate matter from natural gas.

Once a final Title V permit is issued, it does not need to be renewed until five years from the effective date. The modified project must comply with all new periodic monitoring and recordkeeping requirements and may be required to comply with more than one version of the same SCAQMD rule. Also, the modified project would be subject to reporting requirements such as deviation (non-compliance) reports, semi-annual monitoring reports and annual compliance certification reports. Title V requires additional periodic monitoring for the State Implementation Plan-approved, federally enforceable rules that do not contain sufficient monitoring requirements to assure compliance with the emission limitations or other requirements. The SCAQMD has developed guidelines for periodic monitoring, testing, and recordkeeping requirements that may be incorporated in Title V permits.

The permitting process would be separate from the general occupancy permits and entitlements issued by the City and would provide controls for emissions associated with any new stationary source equipment proposed under the modified project. Compliance with SCAQMD Regulation IX, *Source Specific Standards*, and SCAQMD Regulation XIII, *New Source Review*, would ensure all applicable emission standards are met, and impacts from exposure of sensitive receptors to substantial pollutant concentrations from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**e. Create objectionable odors affecting a substantial number of people?**

Adopted ND Analysis: The proposed project has the potential to create objectionable odors in the form of diesel exhaust from the trucks associated with the warehouse facility use. The closest areas with substantial numbers of people are the existing single-family residences located immediately to the east. However, these emissions would rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Recognizing the direction of the prevailing winds (northwest to southeast), dispersion and quantity of the pollutants, the project will not subject a substantial number of people to objectionable odors. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Hydrogen is a colorless, odorless, and tasteless. The SCAQMD CEQA Guidelines provide examples of land uses that have the potential to generate considerable odors (e.g., oil refineries, coal plants, metallurgy facilities, select food production facilities) none of which are relevant to the proposed modified project. The modified project would operate with far fewer diesel truck trips compared to the approved project and is not expected to be a new odor source to the sensitive receptor residences located approximately 375 feet east of the proposed heavy manufacturing uses. Therefore, impacts related to objectionable odors from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**4. Biological Resources.**

**a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Adopted ND Analysis: The project site is in an area identified in the Riverside County Integrated Plan (RCIP) as having the potential for burrowing owl habitat. Although several ground squirrel burrows were observed on-site, no burrowing owls were observed on-site or directly adjacent to

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the site during a habitat assessment conducted for the approved project. The project site has been disturbed through disking for weed abatement and through illegal dumping of refuse. The project has been conditioned to complete a pre-construction survey for burrowing owl prior to any disturbance of the site. Therefore, development of the project site for warehouse uses would result in **less than significant impacts** to Fish and Wildlife resources. No mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped.

The modified project site is within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). A review of the Riverside Conservation Authority (RCA) MSHCP Information Application<sup>26</sup> reveals the modified project site (APNs 0485-230-030 through -033) is not located within any MSHCP cellgroup or criteria cell and therefore has no conservation requirements toward building out the MSHCP Reserve. The RCA MSHCP Information Application also indicates the project site is not located within any amphibian, owl, criteria area, mammal, or narrow endemic plant survey areas; however, the vacant parcel adjacent to the north (APN 0485-230-028) is located within a burrowing owl survey area. Accordingly, it is possible that burrowing owls may occur on the project site. Therefore, it is reasonable to conclude the site-specific conditions prescribed in the adopted ND (i.e., project conditioned to complete a pre-construction survey for burrowing owl prior to any disturbance of the site) would still apply to the modified project site, and impacts to candidate, sensitive, or special status species from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Adopted ND Analysis: The project site does not contain any riparian habitat or other sensitive natural community. Through coordination with the Riverside County Flood Control District for acquisition of any required regulatory permits for interconnection with existing underground stormwater conveyance facilities, the project would have **less than significant impacts** to riparian habitat and/or other sensitive natural communities. No mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped, albeit routinely disked for weed abatement. As is the case with the project site analyzed under the adopted ND, the proposed modified project site does not contain any riparian habitat or other sensitive natural community.

Therefore, impacts to riparian habitat or other sensitive natural community from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Adopted ND Analysis: The project site does not contain any federally-protected wetland areas. Additionally, no riparian areas or condensed vegetation to support threatened or endangered

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<sup>26</sup> Western Riverside County Multiple Species Habitat Conservation Plan. Riverside Conservation Authority MSHCP Information Application. <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=2ba3285ccc8841ed978d2d825e74c5fa> (Accessed May 24, 2018).

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species were evident on-site. Therefore, the project would have **less than significant impacts** to federally-protected wetlands. No mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped, albeit routinely disked for weed abatement. As is the case with the project site analyzed under the adopted ND, the proposed modified project site does not contain any riparian habitat or federally-protected wetland areas. Therefore, impacts to federally-protected wetlands from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Adopted ND Analysis: The project site is in an urbanized area with development on all sides of the site. The site was identified as having the potential for burrowing owl habitat. Although several ground squirrel burrows were observed on-site, no burrowing owls were observed on-site or directly adjacent to the site during a habitat assessment conducted for the approved project, so it is unlikely development of the site would directly impact sensitive species. Additionally, there are no known migratory fish or wildlife species or migratory wildlife corridors on or near the project site. Therefore, development of the project site for warehouse uses would result in **less than significant impacts** to the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors, or impediment of native wildlife nursery sites. No mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped.

As stated previously, the modified project site is located on land administered under the MSHCP. A review of the RCA MSHCP Information Application<sup>27</sup> indicates the modified project site (APNs 0485-230-030 through -033) is not located within any MSHCP cellgroup or criteria cell and therefore has no conservation requirements toward building out the MSHCP Reserve. The RCA MSHCP Information Application also reveals the modified project site is not located within any amphibian, owl, criteria area, mammal, or narrow endemic plant survey areas; however, the vacant parcel adjacent to the north (APN 0485-230-028) is located within a burrowing owl survey area. Accordingly, it is possible that burrowing owls may occur on the project site. Therefore, it is reasonable to conclude the site-specific conditions prescribed in the adopted ND (i.e., project conditioned to complete a pre-construction survey for burrowing owl prior to any disturbance of the site) would still apply to the modified project site.

Although the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code could mandate conservation of or mitigation for impacts to occupied foraging habitat located in a wildlife sanctuary, park or other natural area land use designation, or within listed species critical habitat, the project site is not located within or adjacent to such land use designations. Therefore, impacts to foraging habitat would be **less than significant**. Both the MBTA and the California Fish and Game Code regulate the protection to nests of migratory and other native birds. Although no nests were observed on the project site during a habitat assessment conducted for the approved project, there is potential for nesting to occur. The project proponent is required to comply with the MBTA and the California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3515) to

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<sup>27</sup> *Western Riverside County Multiple Species Habitat Conservation Plan*. Riverside Conservation Authority MSHCP Information Application. <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=2ba3285ccc8841ed978d2d825e74c5fa> (Accessed May 24, 2018).

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protect migratory birds through a pre-construction nesting survey during the nesting season (generally January 1 – August 31). The nesting survey is required if ground disturbance will occur in the nesting season. The nesting bird survey can be conducted at the same time as the burrowing owl survey. Therefore, impacts to the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors, or impedance of native wildlife nursery sites from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Adopted ND Analysis: Development of the approved project would not conflict with any General Plan or local policies pertaining to the protection of biological resources. The project is consistent with the goals and objectives of the General Plan, previously-approved SP #208, and subsequent EIR under the current industrial land use designation. Therefore, development of the project site for warehouse uses would result in **less than significant impacts** from conflict with any local policies or ordinances protecting biological resources. No mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped, albeit routinely disked for weed abatement. No trees exist on the project site, so no policies or ordinances regarding the preservation of trees would apply to the modified project.

As stated previously, the modified project is consistent with the existing “heavy manufacturing” and “office, business, and professional” land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208. Additionally, the modified project site is located on land administered under the MSHCP. A review of the RCA MSHCP Information Application<sup>28</sup> reveals the modified project site (APNs 0485-230-030 through -033) is not located within any MSHCP cellgroup or criteria cell and therefore has no conservation requirements toward building out the MSHCP Reserve. The RCA MSHCP Information Application also reveals the modified project site is not located within any amphibian, owl, criteria area, mammal, or narrow endemic plant survey areas; however, the vacant parcel adjacent to the north (APN 0485-230-028) is located within a burrowing owl survey area. Accordingly, it is possible that burrowing owls may occur on the project site.

The project proponent is required to comply with the MBTA and the California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3515) to protect migratory birds through a pre-construction nesting survey during the nesting season (generally January 1 – August 31). The nesting survey is required if ground disturbance will occur in the nesting season. The nesting bird survey can be conducted at the same time as the burrowing owl survey. Therefore, it is reasonable to conclude the site-specific conditions prescribed in the adopted ND (i.e., project conditioned to complete a pre-construction survey for burrowing owl prior to any disturbance of the site) would still apply to the modified project site. Therefore, impacts from conflict with any local policies or ordinances protecting biological resources would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

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<sup>28</sup> *Western Riverside County Multiple Species Habitat Conservation Plan.* Riverside Conservation Authority MSHCP Information Application. <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=2ba3285ccc8841ed978d2d825e74c5fa> (Accessed May 24, 2018).

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**f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

Adopted ND Analysis: The project site is within the boundaries of the Stephen's Kangaroo Rat Habitat Conservation Plan (SKR HCP) and within the MSHCP but not within any criteria areas, public/quasi-public lands, or any special survey areas. In accordance with the SKR HCP and MSHCP, the project applicant is required to pay fees per acre of disturbance to assist with setting aside established protection areas for SKR and to support the implementation of the MSHCP. Therefore, development of the project site for warehouse uses would result in **less than significant impacts** from conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No mitigation is required.

Modified Project Analysis: The City is located within the boundary of the adopted SKR-HCP administered by the Riverside County Habitat Conservation Agency (RCHCA). The SKR-HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. The SKR-HCP initially established Core Reserves for the conservation of key SKR populations. Outside of the Core Reserves, the SKR-HCP established a fee assessment area by which individual projects are granted coverage under the HCP by payment of SKR fees. The MSHCP, through its goals for SKR, reaffirms the conservation goals of the SKR-HCP, while expanding the coverage area outside of the original coverage boundaries of the SKR-HCP. Neither the SKR-HCP nor MSHCP requires project-specific SKR surveys for sites located outside of the existing Core Reserves. Instead, payments of SKR fees are sufficient to obtain take authorization for SKR, unless specific lands are targeted for conservation by SKR-HCP or MSHCP. In accordance with the California Endangered Species Act, the SKR-HCP establishes a mitigation strategy based on establishment of reserves for the SKR aided by a per-acre mitigation fee levied by Riverside County pursuant to Ordinance No. 663.<sup>29</sup> Therefore, the project is required to pay a fee of \$500 per gross acre of the project site proposed for development.

Additionally, the modified project site is within the MSHCP. The MSHCP was conceived, developed, and is being implemented specifically to address the direct, indirect, cumulative, and growth-related effects on covered species resulting from build out of planned land use and infrastructure, including the proposed modified project. The MSHCP involves efforts by the County, State, and federal governments, the fourteen cities in western Riverside County, and private and public entities engaged in construction activities that potentially affect the species covered under the MSHCP. In accordance with the California Endangered Species Act, the MSHCP establishes a mitigation strategy based on establishment of reserves for species listed under the MSHCP aided by a per-acre mitigation fee levied by Riverside County pursuant to Ordinance No. 810.2.<sup>30</sup> Therefore, the project is required to pay a fee of \$6,914 per acre of the project site proposed for development.

Therefore, through compliance with Riverside County Ordinance No. 663 and No. 810.2, impacts from conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

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<sup>29</sup> Ordinance No. 663. County of Riverside. <http://www.rivcocob.org/ords/600/663.10.pdf> (Accessed May 24, 2018).

<sup>30</sup> Ordinance No. 810.2. County of Riverside. <http://www.rivcocob.org/ords/800/810.htm> (Accessed May 24, 2018).

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**5. Cultural Resources.**

- a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Adopted ND Analysis: An inspection of the project site and review of the Cultural Resources Inventory for the City of Moreno Valley at the California Historical Resources Information System, Eastern Information Center, did not reveal evidence of any known archaeological, historical, or paleontological resources on the site. Notwithstanding, a standard condition of approval is applied to the project to cease excavation or construction activities if archaeological, historical, or paleontological resources are identified. Therefore, the project would have **no impacts** to archaeological, historical, or paleontological resources. No mitigation is required.

Modified Project Analysis: In accordance with State law, the modified project would be required to comply with Title 14, California Code of Regulations (CCR) § 15064.5 and [California] Public Resources Code (PRC) § 21083.2 *California Environmental Quality Act-Archeological Resources*, which enable the City to require the project applicant to make reasonable effort to preserve or mitigate impacts to any affected significant or unique archeological resource. Penal Code § 622 *Destruction of Sites*, establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archeological or historical interest or value, whether situated on private or public lands. California Administrative Code, Title 14, Section 4307 states that no person shall remove, injure, deface or destroy any object of paleontological, archaeological, or historical interest or value. Furthermore, California Code of Regulations Section 1427 recognizes that California's archaeological resources need to be preserved and that every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.

Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the conditions applied under the adopted ND would apply to the modified project site. Accordingly, there is no indication that archaeological, historical, or paleontological resources occur on the modified project site. The modified project would be required to comply with all applicable regulations protecting archaeological, historical, and paleontological resources and would be conditioned to cease excavation or construction activities if archaeological, historical, or paleontological resources are identified during execution of the project. Therefore, impacts to archaeological, historical, or paleontological resources from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**d. Disturb any human remains, including those interred outside of formal cemeteries?**

Adopted ND Analysis: An inspection of the project site and review of the Cultural Resources Inventory for the City of Moreno Valley at the California Historical Resources Information System, Eastern Information Center, did not reveal evidence of any known human remains on the site. Notwithstanding, a standard condition of approval is applied to the project to cease excavation or construction activities if human remains are identified. Therefore, the project would have **no impacts** to human remains. No mitigation is required.

Modified Project Analysis: No known human remains are present on the project site, and there are no facts or evidence to support the idea that Native Americans or people of other descent are buried on the project site. In the unlikely event that human remains are encountered during

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project grading, the proper authorities would be notified, and standard procedures for the respectful handling of human remains during the earthmoving activities would be followed. Construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097, and Section 7050.5 of the State Health and Safety Code. To ensure proper treatment of burials, in the event of an unanticipated discovery of a burial, human bone, or suspected human bone, the law requires that all excavation or grading in the vicinity of the find halt immediately, the area of the find be protected, and the construction contractor immediately notify the County Coroner of the find. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the City shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. The construction contractor, developer, and the County Coroner are required to comply with the provisions of CCR Section 15064.5, PRC Section 5097.98, and Section 7050.5 of the State Health and Safety Code to avoid impacts to unknown buried human remains by ensuring appropriate examination, treatment, and protection of human remains as required by State law.

Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the conditions applied under the adopted ND would apply to the modified project site. Accordingly, there is no indication that human remains occur on the modified project site. The modified project would be required to comply with all applicable regulations protecting human remains and would be conditioned to cease excavation or construction activities if any suspected human remains are identified during execution of the project. Therefore, impacts to human remains from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**6. Geology/Soils.**

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Approved ND Analysis: The proposed industrial warehouse project would not have a direct impact on creating geologic concerns. The site is currently designated for Industrial uses. The proposed plan does not increase the exposure of residences that might be exposed to groundshaking, since residences are not proposed as part of the plan. In addition, the site is not within an Alquist-Priolo zone or other designated fault hazard zone. According to the City's environmental information, the project site is not on or close to any known earthquake fault. There is no risk of ground rupture due to faulting at the approved project site. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. The modified project site is not located



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within a designated Alquist-Priolo Earthquake Fault zone;<sup>31</sup> therefore, the potential for ground rupture at the site is low. Impacts related to fault rupture would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- **Strong seismic ground shaking?**

Approved ND Analysis: The nearest fault is the San Jacinto fault system, which is located about 16 miles to the northeast. The San Andreas Fault system is more than 25 miles north of the site. The active Sierra Madre and San Gabriel fault zones lie roughly 34 and 40 miles, respectively, to the northwest of the site. The active Elsinore and Newport-Inglewood fault zones lie approximately 20 and 45 miles, respectively, to the southwest of the site. This faulting is not considered a significant constraint to development on the site with the implementation of current development codes. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. The project site is located within a seismically active region subject to ground shaking. The extent of ground shaking associated with an earthquake is dependent upon the epicenter of the earthquake and the geologic composition of the modified project site. Construction on the project site would be required to comply with applicable provisions of the latest editions of the International Building Code (IBC) and California Building Code (CBC) as well as the City's building regulations. Prior to issuance of a grading permit, the applicant shall provide evidence to the City that all project componentry has been designed, engineered, and constructed in conformance with the applicable provisions of the IBC and CBC.

As required by the California Energy Commission (CEC), the project applicant has contracted Intertek, a third party quality assurance and certification tests contractor, to monitor the engineering process. Intertek would provide safety testing to ensure the proposed facility complies with all Occupational Safety and Health Administration (OSHA), NFPA 2, IFC, and National Electrical Code (NEC) regulations, the site-specific Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material, as well as pursuant to California Health and Safety Code Section 25503 and Section 25507, and the CalARP Program. These regulations would ensure operation of the proposed project would implement redundant safeguards such as quality control of engineering, construction, and installation of equipment, leak detection devices, automatic shut-off valves, and 24-hour/7 days per week on-site and remote monitoring of the facility to prevent release of hazardous materials (i.e., hydrogen) into the environment. The third-party testing is incorporated into the site manuals and will be shared with fire & safety personnel of the City's Fire Department.

In accordance with the provisions of the 2016 CBC, the applicant shall also prepare a project-specific, design-level geotechnical/soils/geologic investigation report as a condition of approval. The report must include, but not be limited to, such factors as seismic acceleration, liquefaction, compressible soils, corrosive soils, and engineering and construction of all facilities and occupied structures. The findings and recommendations contained in the project-specific, design-level geotechnical/soils/geologic investigation report shall be implemented prior to issuance of grading, building, and/or occupancy permits, as applicable. Furthermore, the City may require additional studies and/or engineering protocols to meet its requirements.

Approvals of geotechnical/soils/geologic installments are made through the City's plan check process. As part of this process, all project-related design, engineering, and construction would be required to meet the City's Building and Safety Division standards. Adherence to the project

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<sup>31</sup> *Significant Earthquakes and Faults*. Southern California Earthquake Data Center, Division of Geological and Planetary Sciences, California Institute of Technology. <http://scedc.caltech.edu/significant/index.html> (Accessed May 27, 2018).

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design features identified in the geotechnical investigation, as well as the 2016 CBC, IBC, CEC, OSHA, NFPA 2, IFC, NEC, and other regulations and requirements by the City and State, would ensure ground shaking hazards would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- **Seismic-related ground failure, including liquefaction?**

Approved ND Analysis: According to the City's environmental resources, the project site is not on, or close to, any known earthquake fault. However, ground-shaking intensity could possibly be moderately-high during a 100-year interval earthquake. Water table and soil conditions are not conducive of seismic-related ground failure on the project site. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. Figure 6-3, Geologic Faults & Liquefaction, of the Safety Element of the Moreno Valley General Plan<sup>32</sup> does not identify the project site as having the potential for liquefaction during a seismic event.

As required by the California Energy Commission (CEC), the project applicant has contracted Intertek, a third party quality assurance and certification tests contractor, to monitor the engineering process. Intertek would provide safety testing to ensure the modified project complies with all Occupational Safety and Health Administration (OSHA), NFPA 2, IFC, and National Electrical Code (NEC) regulations, the site-specific Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material, as well as pursuant to California Health and Safety Code Section 25503 and Section 25507, and the CalARP Program. These regulations would ensure operation of the proposed project would implement redundant safeguards such as quality control of engineering, construction, and installation of equipment, leak detection devices, automatic shut-off valves, and 24-hour/7 days per week on-site and remote monitoring of the facility to prevent release of hazardous materials (i.e., hydrogen) into the environment. The third-party testing is incorporated into the site manuals and will be shared with fire & safety personnel of the City's Fire Department.

In accordance with the provisions of the 2016 CBC, the applicant shall prepare a project-specific, design-level geotechnical/soils/geologic investigation report as a condition of approval. The report must include, but not be limited to, such factors as seismic acceleration, liquefaction, compressible soils, corrosive soils, and engineering and construction of all facilities and occupied structures. The findings and recommendations contained in the project-specific, design-level geotechnical/soils/geologic investigation report shall be implemented prior to issuance of grading, building, and/or occupancy permits, as applicable. Furthermore, the City may require additional studies and/or engineering protocols to meet its requirements.

Approvals of geotechnical/soils/geologic installments are made through the City's plan check process. As part of this process, all project-related design, engineering, and construction would be required to meet the City's Building and Safety Division standards. Adherence to the project design features identified in the geotechnical investigation, as well as the 2016 CBC, IBC, CEC, OSHA, NFPA 2, IFC, NEC, and other regulations and requirements by the City and State, would ensure seismic-related ground failure, including liquefaction, would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- **Landslides?**

Approved ND Analysis: This site is not near or adjacent to the mountainside areas or areas of steep slopes. The site is flat, and landslides will not be an issue. There is no significant impact from landslides. Impacts would be **less than significant**, and no mitigation is required.

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<sup>32</sup> *Safety Element*. Figure 6-3, Geologic Faults & Liquefaction. City of Moreno General Plan. July 2006.

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Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. The modified project site is located within a relatively flat, developed urban area. No sloping terrain exists on the site, and potential for a seismically-induced landslide on the site is low. Therefore, impacts associated with landslides would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

### **b. Result in substantial soil erosion or the loss of topsoil?**

Approved ND Analysis: The development of the site will likely result in the reduction of erosion with the placement of buildings and landscaping on the site. During construction, there is the potential for less than significant impacts for short-term soil erosion from minimal excavation and gradation. This will be address as part of standard construction, such as water to reduce dust and sandbagging, if required, during raining periods. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped. Construction of the modified project on the site would disturb surface soils, creating the potential for erosion to occur due to wind and water.

The Riverside County Flood Control and Water Conservation District is principal permittee, and the City is a co-permittee, under Santa Ana Regional Water Quality Control Board (SARWQCB) Order Number R8-2010-0036, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS 618033, also known as the Municipal Separate Storm Sewer System or MS4 permit. Since development of the project site includes disturbance of more than one acre, the project applicant will be required to comply with the NPDES General Construction Permit, including filing a Notice of Intent (NOI) with the SARWQCB, preparing a SWPPP for implementation during construction, and preparing a Water Quality Management Plan (WQMP) for implementation during operation of the project. These requirements are administered as a matter of policy and are required for all projects that would disturb more than one acre of land.

In accordance with the NPDES, Best Management Practices (BMPs) would be implemented as part of the SWPPP during the construction phase of the project to minimize erosion and loss of topsoil. Consistent with the requirements of the City's grading permit, the applicant would implement the SWPPP during the construction phase to prevent erosion, including covering stockpiles, using silt fences, and limiting construction activities to occur only during dry periods. Operation of the modified project would result in minimal potential for erosion, as the site would be developed with asphalt, concrete, and landscaping in accordance with the WQMP. Compliance with these local, State, and federal requirements pertaining to erosion prevention would ensure impacts related to erosion or loss of topsoil would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

### **c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

Approved ND Analysis: The geologic unit or soil [underlying the project site] is not known to be unstable based on current resources. As provided for in the conditions of approval, the applicant must provide a soils and geologic report to the City Public Works Department for review and approval. The site will not be located on expansive soil as defined in the Table 18-1-B of the Uniform Building Code. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The project site under the modified project is encompassed by the site analyzed under the adopted ND. Since the modified project footprint is encompassed by the

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project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site.

Lateral spreading is commonly associated with liquefaction. As discussed in response to Checklist Question 6(a), above, the potential for liquefaction at the site is low. Subsidence is the vertical displacement of the ground's surface caused by the extraction of large volumes of fluid (water or petroleum products) from deep underground, or caused by the collapse of underground mines. No extraction or mining activities take place in the vicinity of the project site; therefore, the potential for subsidence is low. Notwithstanding, earthwork and rough grading recommendations detailed in the project-specific, design-level geotechnical/soils/geologic investigation report required as a condition of approval will ensure geologic factors such as seismic acceleration, liquefaction, compressible soils, corrosive soils, and engineering and construction of all facilities and occupied structures will occur in accordance with the 2016 CBC, IBC, the City's grading permit, and other regulations implemented to minimize risk from unstable geologic units or soils. The findings and recommendations contained in the project-specific, design-level geotechnical/soils/geologic investigation report shall be implemented prior to issuance of grading, building, and/or occupancy permits, as applicable. Furthermore, the City may require additional studies and/or engineering protocols to meet its requirements.

Prior to issuance of grading, building, and/or occupancy permits, project plans will be reviewed by the City to ensure that on project components have been designed in conformance with the regulations described above. Adherence to the earthwork and rough grading recommendations identified in the project-specific, design-level geotechnical/soils/geologic investigation, as well as the 2016 CBC, IBC, the City's grading permit, and other regulations identified and required by the City, would ensure impacts associated with unstable geologic units or soils would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

Approved ND Analysis: According to the City's environmental information, the geologic unit or soil [underlying the project site] is not known to be unstable. As provided for in the conditions of approval, the applicant must provide a soils and geologic report to City Public Works Department for review and approval. The site will not be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The project site under the modified project is encompassed by the site analyzed under the adopted ND. Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. Accordingly, the modified project would not be located on unsuitable or expansive soils. Notwithstanding, earthwork and rough grading recommendations detailed in the project-specific, design-level geotechnical/soils/geologic investigation report required as a condition of approval will ensure geologic factors such as seismic acceleration, liquefaction, compressible or expansive soils, corrosive soils, and engineering and construction of all facilities and occupied structures will occur in accordance with the 2016 CBC, IBC, the City's grading permit, and other regulations implemented to minimize risk from expansive soils. The findings and recommendations contained in the project-specific, design-level geotechnical/soils/geologic investigation report shall be implemented prior to issuance of grading, building, and/or occupancy permits, as applicable. Furthermore, the City may require additional studies and/or engineering protocols to meet its requirements. Therefore, impacts associated with expansive soils would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

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**e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

Approved ND Analysis: The project will operate on a sewer system that will be reviewed, approved, and installed according to Eastern Municipal Water District requirements. The proposed project will not be introducing septic tanks or alternative water disposal systems. No Impacts would occur, and no mitigation is required.

Modified Project Analysis: As is the case with the project site analyzed under the adopted ND, the proposed modified project does not propose the installation of septic tanks or alternative wastewater disposal systems. The modified project site is located in a developed, urban area and the modified project would utilize the existing municipal sewer system. Impacts associated with septic tanks or alternative wastewater disposal systems would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

## 7. Hazards & Hazardous Materials.

**a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Adopted ND Analysis: The approved project, consisting of seven distribution warehouses on seven separate parcels, would not create a significant hazard to the public or the environment. No known hazardous materials would be associated with development of the approved project, which would be conditioned so that it would not emit hazardous emissions or handle hazardous materials. Therefore, development of the project site for warehouse uses would result in **less than significant impacts** from the routine transport, use, or disposal of hazardous materials. No mitigation is required.

Modified Project Analysis: The proposed modified project will result in the development of a [heavy manufacturing] hydrogen electrolysis and steam methane reformation facility on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and the Stratos Fuel, Inc. corporate headquarters [professional office] campus on Parcel 4 (APN 0485-230-033) of the approved project site. As stated previously, the modified project is consistent with the existing "heavy manufacturing" and "office, business, and professional" land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208.

As is the case with the approved project, potential hazardous materials such as fuel, paint products, lubricants, solvents, and cleaning products may be used and/or stored on-site during construction of the modified project. However, due to the limited quantities of these materials to be used during construction, they are not considered hazardous to the public at large. In accordance with the City's hazardous materials policy, the transport, use, and storage of hazardous materials during the construction and operation of the site will be conducted pursuant to all applicable local, state and federal laws, and in cooperation with the Riverside County Department of Environmental Health, Hazardous Materials Division (DEH).

The project would involve the production of hazardous materials, namely hydrogen, during operation but shall comply with all applicable federal, state, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste, including but not limited to the International Fire Code (IFC) for hydrogen applications, the International Building Code (IBC) and California Building Code (Title 24, CBC) for general construction requirements, the International Fuel Gas Code (IFGC), the NFPA 2 Hydrogen Technologies Code, the NFPA 55 for compressed gases and cryogenic fluids, the NFPA 70 for electrical infrastructure, the American Society of Mechanical Engineers (ASME) B31.12 standard on hydrogen piping and pipelines, and Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, which describes strict regulations for the safe transportation of hazardous materials.



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The City has no direct authority to regulate the transport of hazardous materials on State highways or rail lines. Transportation of hazardous materials by truck and rail is regulated by the U.S. Department of Transportation (DOT). DOT regulations establish criteria for safe handling procedures. Federal safety standards are also included in the California Administrative Code (CAC). The California Health Services Department regulates the haulers of hazardous waste. The Pipeline and Hazardous Materials Safety Administration (PHMSA) and Federal Motor Carrier Safety Administration (FMCSA) are responsible for the oversight of federal hazardous materials transportation regulations, including, but not limited to maintaining the National Hazardous Materials Route Registry, which is a reporting of all designated and restricted road and highway routes for transportation of hazardous materials.<sup>33</sup>

The project proposes to install and operate a hydrogen production and truck loading component within SP #208 zoned for “heavy manufacturing,” as defined in Section IV(10)(b) of this Addendum. The proposed hydrogen facility is located in an established industrial area of the City, and the closest residential uses are approximately 375 feet to the east of the electrolyzer station, 660 feet to the east of the transfill station, 880 feet to the east of the steam methane reformation station, and 1,000 feet east of the cryogenic liquid hydrogen station (See Figure 3b). Hydrogen would be transported from the proposed modified project site via trucks designed for the transport of hydrogen gas using regional roadways (Interstate 215), a collector road (Cactus Avenue), and local streets (Heacock Street and Revere Place).

Hydrogen delivery trucks entering and exiting the project site would be provided specific travel directions to the hydrogen facility and for deliveries to hydrogen refueling stations (i.e., primarily utilizing arterial streets and unrestricted highways, per the National Hazardous Materials Route Registry). Hydrogen delivery trucks (both liquid and gaseous) would be required to be in conformance with Hazardous Materials Transportation Act (HMTA) regulations pertaining to training, packaging, and operation of trucks transporting hydrogen, a flammable substance. The modified project at buildout would generate up to 25 gaseous hydrogen tube trailer trucks traveling to and from the site per day. As noted by the U.S. Department of Energy (DOE), hydrogen (and another alternative fuel, propane) have long histories of being used as fuel and both fuels can be used safely if their physical, chemical, and thermal properties are understood and if appropriate codes, standards, and guidelines are followed.<sup>34</sup> The project site is located in an industrial area and can be accessed primarily by highway or expressway. Transportation of hydrogen at the proposed level of up to 25 trucks, in accordance with federal, state, and local regulations and guidelines, would not result in a significant hazard to the public or the environment.

The DEH established an Area Plan<sup>35</sup> based on requirements of Chapter 6.95 of the California Health and Safety Code, Title 19 of the California Code of Regulations and the U.S. Environmental Protection Agency Superfund Amendments and Reauthorization Act (SARA) Title III for emergency response to a release or threatened release of a hazardous material within the County. As part of the Area Plan, the Federal Risk Management Plan (RMP), as incorporated and modified by the State of California Accidental Release Prevention (CalARP) Program, is designed to prevent harm to people and the surrounding environment by the use of various organized systems to identify and manage hazards. The goal of the CalARP Program is to make all facilities that handle regulated substances free of catastrophic incidents.

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<sup>33</sup> *National Hazardous Materials Route Registry*. Federal Motor Carrier Safety Administration. <https://www.fmcsa.dot.gov/regulations/hazardous-materials/national-hazardous-materials-route-registry>. (Accessed May 25, 2018).

<sup>34</sup> *A Comparison of Hydrogen and Propane Fuels*. United States Department of Energy. April 2009.

<sup>35</sup> “Area Plan” means a plan established pursuant to Section 25503 by a unified program agency for emergency response to a release or threatened release of a hazardous material within a city or county.

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Hydrogen is a colorless, odorless, tasteless, highly flammable gas with a wide flammability range and can cause fires and explosions if not handled properly.<sup>36</sup> Hazards associated with liquid hydrogen are fire, explosion, and exposure to asphyxiation and to extremely low temperatures for those handling liquid hydrogen. Hydrogen will be stored on-site in its natural form as a gas as well as a cryogenic liquid in containers designed per NPFA 2, ASME B31.12, and NFPA 55 requirements. Before being installed, all of the equipment skids will go through partial factory acceptance testing at a Hydrogenics USA facility. Hydrogenics USA are a global leader in electrolyzer and fuel cell manufacturing. They started making electrolyzers in the mid-1940s and have dozens of innovative large-scale polymer electrolyte membrane (PEM) hydrogen production plants in operation around the world and hundreds of industrial references. The factory acceptance testing will include a full input/output check of instrumentation and cabling, as well as pressure testing of the pressurized process equipment skids.

Gaseous hydrogen is stored predominately in steel cylinders at a pressure of 150-200 bar and at an ambient temperature of approximately 298 Kelvin (76.73 Fahrenheit). Hydrogen is liquefied by reducing its temperature to -253 Celsius (-423.4 Fahrenheit). The most common conventional steel gaseous cylinders contain a volume of 40 liters and a pressure of 150 bar. In the last decade, significant progress has been made in a move towards lightweight cylinders using chrome-molybdenum steel. The individual cylinders would be clustered together to be filled and released at the proposed transfill station through just one valve, and the cylinders would be interconnected through high-pressure tubing. Hydrogen would be stored on-site also in liquid form in a double-walled, steel cryogenic tank with a capacity of 18,750 gallons (11,023 pounds). The CalARP program requires the project operator to prepare a Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to California Health and Safety Code Section 25503 and Section 25507 because the business would handle a hazardous material or a mixture containing a hazardous material that has a quantity at any one time above the thresholds described in Section 25507(a) (1) through (6) (i.e., liquid hydrogen in excess of 10,000 pounds).

The required, project-specific, Hazardous Materials Business Emergency Plan will be developed in accordance with the DOE's Hydrogen Safety Panel's *Safety Planning for Hydrogen and Fuel Cell Projects*, dated March 2016.<sup>37</sup> At a minimum, the Hazardous Materials Business Emergency Plan is required to include the following aspects which can be viewed by the public:

- a. Scope of Work for the Safety Plan
- b. Organizational Safety Information
  - Organizational Policies and Procedures
  - Hydrogen and Fuel Cell Experience
- c. Project Safety
  - Identification of Safety Vulnerabilities (ISV)
  - Risk Reduction Plan
  - Operating Procedures
  - Equipment and Mechanical Integrity
  - Management of Change (MOC) Procedures
- d. Communications Plan
  - Training

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<sup>36</sup> *Hydrogen Station Permitting Handbook, Best Practices for Planning, Permitting, and Opening a Hydrogen Fueling Station*. California Governor's Office of Business and Economic Development. November 2015.

<sup>37</sup> *Safety Planning for Hydrogen and Fuel Cell Projects*. United States Department of Energy. March 2016. [https://h2tools.org/sites/default/files/Safety\\_Planning\\_for\\_Hydrogen\\_and\\_Fuel\\_Cell\\_Projects-March\\_2016.pdf](https://h2tools.org/sites/default/files/Safety_Planning_for_Hydrogen_and_Fuel_Cell_Projects-March_2016.pdf) (Accessed May 29, 2018).

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- Safety Reviews
- Safety Events and Lessons Learned
- Emergency Response
- Self-Audits

All on-site facilities would be constructed and operated in accordance with the National Fire Protection Association (NFPA) 2 Hydrogen Technologies Code. The NFPA 2 code provides fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas as well as cryogenic liquid form. If hydrogen were to leak on-site, it would disperse into the air almost immediately because it is so light. As required under NFPA 2 and the IFC, the proposed modified project shall be designed to prevent hydrogen from leaking and shall incorporate redundant systems to shut down automatically in the unlikely event an accident occurs. Stratos Fuel's on-site offices will monitor the facility both on-site and remotely by cameras and electronically 24 hours a day. Flame detection and hydrogen gas sensors shall be incorporated to ensure safe operating conditions. These elements, as well as programmed equipment alarms, will report back to a monitored systems control panel pursuant to IFC and NFPA 2 regulations.

NFPA 2 requires a hazard analysis to be conducted on every hydrogen fueling system installation by a qualified engineer(s) with proven expertise in hydrogen fueling systems, installations, and hazard analysis techniques. As required by the California Energy Commission (CEC), the project applicant has contracted Intertek, a third party quality assurance and certification tests contractor, to monitor the engineering process. Intertek would provide safety testing to ensure the modified project complies with all Occupational Safety and Health Administration (OSHA), NFPA 2, IFC, and National Electrical Code (NEC) regulations, the site-specific Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material, as well as pursuant to California Health and Safety Code Section 25503 and Section 25507, and the CalARP Program. The third-party testing is incorporated into the site manuals and will be shared with fire & safety personnel of the City's Fire Department.

The project applicant will also be required to provide adequate access for emergency response apparatus and coordinate with the City Fire Department to establish preplanning strategies and ensure appropriate training and equipment for first responders in the event of an emergency. Pursuant to IFC 5003.9.1, the project applicant will invite the City Fire Department to tour the hydrogen facilities and focus attention on safety features and emergency shutoffs. Qualified project applicant staff will provide training to emergency response personnel to ensure proper understanding of appropriate response to a hydrogen incident. Additionally, the project applicant will maintain thermal imaging cameras and flame detectors on-site and ensure the City fire department has such equipment available for their use.

Compliance with all applicable local, state, and federal laws, including but not limited to Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, CalARP Program, California Health and Safety Code Section 25503 and 25507, DEH, PHMSA, FMCSA, DOT, HMTA, CEC, OSHA, NFPA 2, IFC, IFGC, and NEC would ensure impacts from the routine transport, use, or disposal of hazardous materials as a result of development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Adopted ND Analysis: Please refer to response to Checklist Question 7(a). Development of the project site for warehouse uses would result in **less than significant impacts** from upset and accident conditions involving the release of hazardous materials into the environment. No mitigation is required.

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Modified Project Analysis: According to the Department of Toxic Substances Control, EnviroStor Database,<sup>38</sup> the modified project site has not been identified as containing hazardous materials. Therefore, ground disturbance from anticipated on-site construction activities is not expected to release hazardous material into the environment.

As detailed in response to Checklist Question 7(a), compliance with all applicable local, state, and federal laws, including but not limited to Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, CalARP Program, California Health and Safety Code Section 25503 and 25507, DEH, PHMSA, FMCSA, DOT, HMTA, CEC, OSHA, NFPA 2, IFC, IFGC, and NEC would ensure operation of the proposed project would implement redundant safeguards such as quality control of engineering, construction, and installation of equipment, leak detection devices, automatic shut-off valves, and 24-hour/7 days per week on-site and remote monitoring of the facility to prevent release of hazardous materials (i.e., hydrogen) into the environment. Therefore, impacts from upset and accident conditions involving the release of hazardous materials into the environment as a result of development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Adopted ND Analysis: Please refer to response to Checklist Question 7(a). Development of the project site for warehouse uses would result in **less than significant impacts** from upset and accident conditions involving the release of hazardous materials into the environment. No mitigation is required.

Modified Project Analysis: The City does not have jurisdiction with respect to the location, design, or construction of school facilities. However, the City works with the Moreno Valley Unified School District regarding the design of roads and other public improvements in and around school sites and is responsible for fire, police, and public safety concerns involving all facilities within the City, including schools.

The nearest school to the modified project site, March Middle School (15800 Indian Street), is located approximately 0.26 mile (1,367 feet) east, and Rainbow Ridge Elementary School (15950 Indian Street) is located approximately 0.27 mile (1,417 feet) southeast of the eastern project site boundary. The handling of hazardous materials or emission of hazardous substances would occur pursuant to the project-specific Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to California Health and Safety Code Section 25503 and Section 25507. Additionally, the project would be constructed and operated in accordance with Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, CalARP Program, California Health and Safety Code Section 25503 and 25507, DEH, PHMSA, DOT, HMTA, CEC, OSHA, NFPA 2, IFC, IFGC, and NEC to ensure proposed modified project would implement redundant safeguards such as quality control of engineering, construction, and installation of equipment, leak detection devices, automatic shut-off valves, and 24-hour/7 days per week on-site and remote monitoring of the facility to prevent release of hazardous materials (i.e., hydrogen) into the environment. Specifically, through compliance with the DOT, PHMSA, and FMCSA for the oversight of federal hazardous materials transportation regulations, including, but not limited to maintaining the National Hazardous Materials Route Registry, which is a reporting of all designated and restricted road and highway routes for transportation of hazardous materials, impacts from emission or handling of hazardous material, substances, or waste within one-quarter mile of a proposed school as a result of development of

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<sup>38</sup> *EnviroStor Database*. Department of Toxic Substances Control.  
[https://www.envirostor.dtsc.ca.gov/public/map/?global\\_id=33000006](https://www.envirostor.dtsc.ca.gov/public/map/?global_id=33000006) (Accessed May 26, 2018).

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the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Adopted ND Analysis: The project is not located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Pursuant to Government Code 65962.5, environmental regulatory database lists were reviewed to identify and locate properties with known hazardous substance contamination within the proposed project area (California Government Code, Section 65960 et seq.). Four State agencies are required to provide lists of facilities that have contributed, harbor, or are responsible for environmental contamination within their jurisdiction. The four State agencies that are required to provide these lists to the Secretary for Environmental Protection include the DTSC, the State Department for Health Services, the State Water Resources Control Board (SWRCB), and the California Integrated Waste Management Board (CIWMB). The Secretary for Environmental Protection then takes each of the four respective agency lists and forms one list, referred to as the Hazardous Waste and Substances Site List – Site Cleanup and also known as the Cortese List, which is made available to every city and/or county in California.<sup>39</sup>

The neighboring March Air Reserve Base is listed on the Cortese List as a Superfund site for contributing trichloroethylene and fuel to the Perris North [surface- and groundwater] Subbasin, and the United States Air Force operates wells and facilities designed to clean the contaminated groundwater.<sup>40,41</sup> However, the modified project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and the modified project does not propose any activity within the March Air Reserve Base. Therefore, impacts to the public or the environment as a result of development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

Adopted ND Analysis: The project is located across the street from the March Air Reserve Base but outside the boundaries of the Air Installation Compatibility Use Overlay District (AICUZ). This is an overlay district that restricts land use on properties located to the north and south of the runway of March Air Reserve Base. The AICUZ includes elements that address noise zones and accident potential zones. The project is not within an airport land use plan. The project as designed and conditioned will not result in a safety hazard for people working in the project area. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: The modified project footprint is encompassed by the project site analyzed under the adopted ND. According to Map MA-1, Compatibility Map, of the March Air

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<sup>39</sup> DTSC's *Hazardous Waste and Substances Site List – Site Cleanup (Cortese List)*. DTSC (California Department of Toxic Substances Control). 2018.

[http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site\\_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+\(CORTESE\)](http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE)). (Accessed May 26, 2018.).

<sup>40</sup> *Ibid.*

<sup>41</sup> Section 5.7, *Hydrology/Water Quality*. Page 5.7-8 Moreno Valley General Plan Final Program EIR. July 2006.

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Reserve Base/Inland Port Airport Land Use Compatibility Plan,<sup>42</sup> which is intended to promote compatible land uses in nongovernment areas adjacent to military airfields, the modified project site is located within the March Air Reserve Base Compatibility Zone D (Flight Corridor Buffer), as detailed in Table 7.A. Additionally, The March Joint Powers Authority<sup>43</sup> identifies the modified project site within Federal Aviation Administration (FAA) Part 77 Notification Area, which limits building heights in this area to 85-feet.

The project as proposed is not expected to include any structures that would reach 85 feet, and any development application submitted under the proposed modified project would be subject to planning commission review and approval prior to issuance of grading and building permits to ensure consistency with Compatibility Zone D of the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, FAA Part 77, and the design guidelines of the SP#208. Furthermore, the modified project would be reviewed by the Riverside County Airport Land Use Commission (ALUC) pursuant to California Public Utilities Code Section 21676 to ensure consistency with the Riverside County Airport Land Use Compatibility Plan. Any project-specific conditions imposed by the ALUC will be implemented as applicable so that execution of the proposed modified project within Compatibility Zone D will occur in accordance with the ALUCP. Therefore, impacts from safety hazards to people residing or working in the project area from a project within an airport land use plan would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

Adopted ND Analysis: There is no private airstrip within the vicinity of the approved project site or within the City of Moreno Valley. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Since there is no private airstrip within the vicinity of the modified project site or within the City of Moreno Valley, impacts from safety hazards to people residing or working in the project area from a project in the vicinity of a private air strip would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Adopted ND Analysis: The approved project would not have any direct effect on an adopted emergency response plan, or emergency evacuation plan. The City's emergency plans are also consistent with the General Plan. The proposed warehouse distribution facility has been designed and conditioned to provide required circulation and required fire access to allow for ingress of emergency vehicles and egress of occupants. Therefore, the proposed project would not be in conflict in any way with the emergency response or emergency evacuation plans. **No impact** would occur, and no mitigation is required.

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<sup>42</sup> *March Air Reserve base/Inland Port Airport Land Use Compatibility Plan*. Map MA-1, Compatibility Map. Riverside County Airport Land Use Commission. November 13, 2014.

<sup>43</sup> *Ibid.* Map MA-1, Compatibility Map and Map MA-2, Airspace Protection Surfaces.



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**Table 7.A: Compatibility Criteria for Land Use Actions**

Zone	Locations	Maximum Densities / Intensities			Additional Criteria	
		Residential (d.u./ac) <sup>1</sup>	Other Uses (people/acre) <sup>2</sup>		Prohibited Uses <sup>3</sup>	Other Development Conditions <sup>4</sup>
			Average <sup>5</sup>	Single Acre <sup>6</sup>		
D	Flight Corridor Buffer	No Limit	No Restriction <sup>7</sup>		• Hazards to flight. <sup>8</sup>	• Major spectator-oriented sports stadium, amphitheaters, concert halls discouraged. <sup>7</sup> • Electromagnetic radiation notification. <sup>9</sup> • Deed notice and disclosure. <sup>4</sup>

d.u./ac = dwelling units per acre

<sup>1</sup>Residential development must not contain more than the indicated number of dwelling units (excluding secondary units) per gross acre. Clustering of units is encouraged provided that the density is limited to no more than 4.0 times the allowable average density for the zone in which the development is proposed. Gross acreage includes the property at issue plus a share of adjacent roads and any adjacent, permanently dedicated, open lands. Mixed-use development in which residential uses are proposed to be located in conjunction with nonresidential uses in the same or adjoining buildings on the same site shall be treated as nonresidential development for the purposes of usage intensity calculations; that is, the occupants of the residential component must be included in calculating the overall number of occupants on the site. A residential component shall not be permitted as part of a mixed use development in zones where residential uses are indicated as incompatible. See Countywide Policy 3.1.3(d). All existing residential development, regardless of densities, is not subject to ALUC authority.

<sup>2</sup>Usage intensity calculations shall include all people (e.g., employees, customers/visitors, etc.) who may be on the property at a single point in time, indoors or outside.

<sup>3</sup>The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria. See *Riverside County Airport Land Use Compatibility Plan*, Volume 1, Appendix D for a full list of compatibility designations for specific land uses.

<sup>4</sup>As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law. See Countywide Policy 4.4.2 for details. Easement dedication and deed notice requirements indicated for specific compatibility zones apply only to new development and to reuse if discretionary approval is required. Except within Zone A (Clear Zone), aviation easements are to be dedicated to the March Inland Port Airport Authority. See sample language in [www.marchjpa.com/docs\\_forms/aviationeasement.pdf](http://www.marchjpa.com/docs_forms/aviationeasement.pdf). Any aviation easements required within Zone A shall be dedicated to the United States of America.

<sup>5</sup>The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the gross acreage of the site. Rare special events are ones (such as an air show at the airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

<sup>6</sup>Clustering of nonresidential development is permitted. However, no single acre of a project site shall exceed the indicated number of people per acre. See Countywide Policy 4.2.5 for details.

<sup>7</sup>Although no explicit upper limit on usage intensity is defined for Zone D and E, land uses of the types listed—uses that attract very high concentrations of people in confined areas—are discouraged in locations below or near the principal arrival and departure flight tracks.

<sup>8</sup>Hazards to flight include physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds to increase is also prohibited. Man-made features must be designed to avoid heightened attraction of birds. In Zones A, B1, and B2, flood control facilities should be designed to hold water for no more than 48 hours following a storm and be completely dry between storms (see FAA Advisory Circular 150/5200-33B). Additionally, certain farm crops and farming practices that tend to attract birds are strongly discouraged. These include: certain crops (e.g., rice, barley, oats, wheat – particularly durum – corn, sunflower, clover, berries, cherries, grapes, and apples); farming activities (e.g., tilling and harvesting); confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg-laying operations); and various farming practices (e.g., livestock feed, water, and manure). Fish production (i.e., catfish, trout) conducted outside of fully enclosed buildings may require mitigation measures (e.g., netting of outdoor ponds, providing covered structures) to prevent bird attraction. Also see Countywide Policy 4.3.7.

<sup>9</sup>March ARB must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include microwave transmission in conjunction with a cellular tower, radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers and other similar EMR emissions.

Source: Table MA-2. *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan*. Riverside County Airport Land Use Commission. November 13, 2014.

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Modified Project Analysis: The proposed modified project will result in the development of a [heavy manufacturing] hydrogen electrolysis and steam methane reformation facility on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and the Stratos Fuel, Inc. corporate headquarters [professional office] campus on Parcel 4 (APN 0485-230-033) of the approved project site. As stated previously, the modified project is consistent with the existing “heavy manufacturing” and “office, business, and professional” land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208; therefore, the proposed modified project is consistent with the City’s General Plan.

As discussed in detail in Section IV(8)(a) of this Addendum, the proposed modified project will be subject to several strict local, state, and federal laws, including but not limited to Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, CalARP Program, California Health and Safety Code Section 25503 and 25507, DEH, PHMSA, FMCSA, DOT, HMTA, CEC, OSHA, NFPA 2, IFC, IFGC, and NEC, which are designed to support emergency response and evacuation in the unlikely event of an incident.

Any street closures necessary to construct the proposed modified project will be temporary and managed in compliance with California Fire Code and all City codes and regulations so as not to interfere or impede with any emergency response or evacuation plan. The project applicant will be required to provide adequate access for emergency response apparatus and coordinate with the City Fire Department to establish preplanning strategies and ensure appropriate training and equipment for first responders in the event of an emergency. Pursuant to IFC 5003.9.1, the project applicant will invite the City Fire Department to tour the hydrogen facilities and focus attention on safety features and emergency shutoffs. Qualified project applicant staff will provide training to emergency response personnel to ensure proper understanding of appropriate response to a hydrogen incident. Additionally, the project applicant will maintain thermal imaging cameras and flame detectors on-site and ensure the City fire department has such equipment available for their use.

Any development application submitted under the proposed modified project would be reviewed by the City Fire and Police Departments as part of project review and approval prior to issuance of grading and building permits to ensure construction and operation of the modified project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

Adopted ND Analysis: The approved project site is not adjacent to wildlands, nor is it within a designated wildland area. Therefore the approved project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. **No impact** would occur, and no mitigation is required.

Discussion of Effects: As detailed in Figure 5.5-2, Floodplains and High Fire Hazard Areas, of the General Plan Final Program EIR, the project site is not located adjacent to wildlands, nor is it within a designated wildland area or fire hazard area. Therefore, impacts would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**8. Hydrology/Water Quality.****a. Violate any water quality standards or waste discharge requirements?**

Adopted ND Analysis: Pursuant to the requirements of the Santa Ana Regional Water Quality Control Board, a project specific Water Quality Management Plan (WQMP) is required for certain projects involving discretionary approval. This project requires a WQMP to address pollutants of concern which include nutrients, oxygen demanding substances, and pathogens (bacteria and viruses). Site Design and Source Control best management practices (BMPs) are used throughout the project. Treatment BMPs must be selected and implemented which are medium to highly effective in treating pollutants of concern. The applicant has proposed to incorporate the use of multiple filtration systems as the treatment BMP. The treatment control BMP is acceptable as the conceptual treatment subject to certain conditions including in-situ percolation/infiltration test results. Although this approach is acceptable in concept with the Preliminary WQMP, final sizing and specifications based on support calculations and design details will be provided in the Final WQMP at the post entitlement stage. Additionally, grading activities would temporarily expose soils to wind and water erosion that would contribute to downstream sedimentation. The proposed project would comply with all permits and development guidelines associated with urban water runoff and discharge set forth by the City of Moreno Valley and the Regional Water Quality Control Board. With the approval of the storm drainage facilities by the City Engineer and Riverside County Flood Control District, as well as complying with all applicable storm water discharge permits, impacts would be **less than significant**.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped. As part of the modified project, on-site bioswales will be incorporated into the project landscaping to ensure stormwater runoff from conversion of permeable surfaces to impermeable surfaces is managed in accordance with applicable regulations, as described in detail below.

As is the case with the project site analyzed under the adopted ND, the proposed modified project would be required to obtain an NPDES permit for the discharge of stormwater. This permit will ensure that provision of vegetated swales, buffers, and/or infiltration areas are incorporated in new development projects. The City is a co-permittee under SARWQCB Order Number R8-2010-0036, NPDES Permit No. CAS 618033, also known as the Municipal Separate Storm Sewer System or MS4 Permit. The Water Quality Management Plan for the Santa Ana Region of Riverside County was developed to implement compliance with the MS4 permit. In accordance with the provisions of the MS4 permit, the City will require the project applicant to prepare a project-specific WQMP prior to issuance of a building permit that address impacts to water quality and quantity in the post-development phase (i.e., project operational phase). These are standard regulatory requirements that apply to all development projects and will be included in the conditions of approval for this project. Pursuant to the MS4 Permit, the project-specific WQMP must demonstrate that any proposed on-site development plan includes BMPs for source control, pollution prevention, site design, low impact development (LID) implementation, and structural treatment control. BMPs must be designed and implemented to retain the project site's minimum design capture volume and hydromodification volume to ensure post-development storm water runoff volume or time of concentration does not exceed pre-development storm water runoff. Periodic maintenance of any incorporated infiltration basins and/or bioswales and landscaped areas during project occupancy and operation shall be in accordance with the schedule outlined in the WQMP. As is the case with the approved project, final sizing and specifications of the BMPs based on support calculations and design details will be provided in the Final WQMP at the post entitlement stage.

Runoff during grading and construction activities could result in sediment and other urban pollutants into local drainage facilities. Since development of the project site includes disturbance of more than one acre, the project applicant will be required to comply with the NPDES General

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Construction Permit, including filing an NOI with the SARWQCB, and preparing a SWPPP for implementation during construction. These requirements are administered as a matter of policy and are required for all projects that would disturb more than one acre of land. The SWPPP is a written document that describes the construction operator's activities to comply with the requirements in the NPDES permit. Required elements of an SWPPP include (1) site description addressing the elements and characteristics specific to the project site; (2) descriptions of Best Management Practices (BMPs) for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; and (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements. The SWPPP is intended to facilitate a process whereby the operator evaluates potential pollutant sources at the site and selects and implements BMPs designed to prevent or control the discharge of pollutants in storm water runoff. The construction contractor would be required to operate and maintain the BMPs throughout the duration of on-site construction activities.

Adherence to NPDES requirements is required of all development within the City. With implementation of the measures contained in the WQMP and SWPPP, impacts associated with water quality standards and/or water discharge requirements would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

Adopted ND Analysis: The Eastern Municipal Water District (EMWD) would provide the proposed project with water supplies as opposed to utilizing individual water wells. Water supplies are adequate to serve the proposed project. Although the project would cover a majority of the site with impervious surfaces, the landscaped areas would still provide a means for groundwater recharge. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The project site is located in the Perris North Groundwater Basin. At the time of the adoption of the City's General Plan, domestic water supplies were not reliant on groundwater as a primary source;<sup>44</sup> however, recent development of two desalinization plants operated by the EMWD has increased its reliance on regional groundwater, in conjunction with imported water from the Metropolitan Water District of Southern California, for its potable water sources.<sup>45</sup> According to the City's General Plan EIR, development within the City may result in an incremental reduction in groundwater recharge rates due to the increase in impervious surfaces.

As is the case with the project analyzed under the adopted ND, water supplies for the modified project would be provided by the EMWD. No direct groundwater withdrawals would be required for the modified project. Pursuant to California Government Code Section 65450 et seq., Specific Plans provide detailed land use and infrastructure plans and policies for a certain geographic area and must be consistent with an applicable General Plan. As stated previously, the modified project is consistent with the existing "heavy manufacturing" and "office, business, and professional" land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208; therefore, the project is consistent with the land use assumptions of the City's General Plan. Furthermore, the EMWD water demands projected in its 2015 UWMP takes into account anticipated development growth in the City pursuant to the City's General Plan. Therefore, the EMWD 2015 UWMP reflects and anticipates buildout of the SP #208 in its water supply and demand projections. As detailed in Tables ES-4 and ES-5 of the EMWD 2015 UWMP, the EMWD

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<sup>44</sup> Section 5.7 Hydrology/Water Quality. Page 5.7-8. Moreno Valley General Plan Final Program EIR. July 2006.

<sup>45</sup> 2015 Urban Water Management Plan. Page 5-2. Eastern Municipal Water District. June 2016.

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is projected to meet current and projected water demands through the year 2040 under normal, historic single-dry and historic multiple-dry year scenarios. EMWD's 2015 UWMP also discloses that in the event of a water supply shortage or water emergency, the City has in place water shortage contingency plans which ensure provision of priority water services to all its existing and anticipated customers.

As described above, a project-specific WQMP will be developed to specify BMPs designed and implemented to retain the modified project site's minimum design capture volume and hydromodification volume. These project design BMPs such as bio-swales and on-site landscaping would be designed to maximize groundwater infiltration. Periodic maintenance of any required BMPs during project occupancy and operation will be in accordance with the schedule outlined in the WQMP. As is the case with the approved project, final sizing and specifications of the BMPs based on support calculations and design details will be provided in the Final WQMP at the post entitlement stage in order to ensure storm water would be captured on-site and allowed to infiltrate into the ground such that post-development storm water runoff volume or time of concentration would not exceed pre-development storm water runoff. The site-specific BMPs would therefore facilitate groundwater recharge within the EMWD's service territory, where water supply was deemed to be adequate, at a rate that would meet or exceed pre-development conditions. Therefore, impacts associated with groundwater recharge would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or off site?**

Adopted ND Analysis: During construction of the project, there is the potential for some sediments to be discharged within the storm water system. Erosion plans are required for projects prior to issuance of grading permits for preventing substantial erosion. The site is within the 100-year floodplain. However, there is no streambed or river on the project site, so the project will not cause a change in the existing drainage pattern that would result in substantial erosion or siltation on- or off-site. Therefore, project implementation would not result in modifications that could ultimately result in substantial erosion or siltation on- or off-site. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Development of the modified project (buildings and pavement) would alter the amount of existing impervious surface area and therefore has the potential to alter the amount of generated runoff. Except for non-paved areas, there are no existing BMPs or other mechanisms on site designed to capture storm water runoff and facilitate infiltration prior to discharge into the municipal storm drains.

Construction of the modified project would disturb unpaved surfaces and expose on-site soils to erosion and siltation potential. As described previously, the project applicant will be required to prepare a SWPPP prior to the issuance of a grading permit. The SWPPP shall include a surface water control plan and erosion control plan citing specific measures to control on-site and off-site erosion during the grading and construction period. In addition, the SWPPP shall emphasize structural and nonstructural BMPs to control sediment and non-visible discharges from the site. The SWPPP shall include inspection forms for routine monitoring of the site during construction to ensure NPDES compliance and that additional BMPs and erosion control measures will be documented in the SWPPP and utilized if necessary.

Consistent with the requirements of the NPDES permit, the applicant will prepare a project-specific WQMP to specify BMPs designed and implemented to retain the project site's minimum design capture volume and hydromodification volume. These project design BMPs such as bio-swales and on-site landscaping would be designed to maintain the site's existing drainage pattern and prevent erosion or siltation. Periodic maintenance of any required BMPs during project

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occupancy and operation will be in accordance with the schedule outlined in the WQMP. As is the case with the approved project, final sizing and specifications of the BMPs based on support calculations and design details will be provided in the Final WQMP at the post entitlement stage in order to ensure storm water would be captured on-site and allowed to infiltrate into the ground such that post-development storm water runoff volume or time of concentration would not exceed pre-development storm water runoff.

With implementation of the measures contained in the WQMP and SWPPP, impacts associated with alteration of the modified project site's existing drainage pattern resulting in erosion or siltation would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?**

Adopted ND Analysis: A river or streambed was not evident on the site. Runoff patterns will not be altered to the result of flooding on- or off-site. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: No streams or bodies of water are located within the limits of the modified project site. Upon development, runoff will generally flow to underground infiltration systems for treatment and will ultimately be conveyed to existing storm drain features. As described previously, the applicant will prepare a project-specific WQMP to specify BMPs designed and implemented to retain the project site's minimum design capture volume and hydromodification volume. These project design BMPs such as bio-swales and on-site landscaping would be designed to maintain the site's existing drainage pattern and prevent flooding on- or off-site. Periodic maintenance of any required BMPs during project occupancy and operation will be in accordance with the schedule outlined in the WQMP. As is the case with the approved project, final sizing and specifications of the BMPs based on support calculations and design details will be provided in the Final WQMP at the post entitlement stage in order to ensure storm water would be captured on-site and allowed to infiltrate into the ground such that post-development storm water runoff volume or time of concentration would not exceed pre-development storm water runoff. As the modified project will maintain the current patterns of drainage and will ultimately drain to existing storm drain features, impacts associated with alteration of the modified project site's existing drainage pattern resulting in flooding on- or off-site would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**e. Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? And;**

**f. Otherwise substantially degrade water quality?**

Adopted ND Analysis: All storm drainage improvements would be developed to the standards of the City Engineer and the Riverside County Flood Control Agency. As with any urban project, runoff entering the storm drainage system would contain minor amounts of pollutants (including pesticides, fertilizers, and motor oil). This would incrementally contribute to the degradation of surface and sub-surface water quality. Additionally, grading activities would temporarily expose soils to water erosion that would contribute to downstream sedimentation. However, the project is subject to the permit requirements of the Santa Ana Regional Water Quality Control Board. As the site is currently unpaved and exposed, development of the proposed project would lessen the existing site contribution to sediment runoff at project completion. Impacts would be **less than significant**, and no mitigation is required.



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Modified Project Analysis: As described previously, since development of the project site includes disturbance of more than one acre, the project applicant will be required to comply with the NPDES General Construction Permit, including filing an NOI with the SARWQCB, preparing a SWPPP for implementation during construction, and preparing a WQMP for implementation during operation of the project.

Filing of the NOI is required pursuant to the State NPDES General Construction Storm Water Permit for discharge of surface runoff associated with construction activities. Evidence that this has been obtained (i.e., a copy of the Waste Discharger's Identification Number) will be submitted to the City for coverage under the NPDES General Construction Permit. The NOI will also address the potential for an extended and discontinuous construction period as required.

The SWPPP will include a surface water control plan and erosion control plan citing specific measures to control on-site and off-site erosion during the entire grading and construction period. The SWPPP will emphasize structural and nonstructural BMPs to control sediment and non-visible discharges from the site and include inspection forms for routine monitoring of the site throughout the construction phases to ensure NPDES compliance. In addition, the SWPPP will specify additional BMPs and erosion control measures which may be utilized as determined by the RWQCB and address the potential for an extended and discontinuous construction period as required. The SWPPP will be kept on site for the entire duration of project construction and will be available to the local RWQCB for inspection at any time in accordance with the NPDES General Construction Permit. The SWPPP will detail BMPs to be implemented during construction to reduce/eliminate adverse water quality impacts resulting from development.

The WQMP will specify BMPs designed and implemented to retain the project site's minimum design capture volume and hydromodification volume. These project design BMPs such as bio-swales and on-site landscaping would be designed to maintain the site's existing drainage pattern and prevent flooding on- or off-site. Periodic maintenance of any required BMPs during project occupancy and operation will be in accordance with the schedule outlined in the WQMP. As is the case with the approved project, final sizing and specifications of the BMPs based on support calculations and design details will be provided in the Final WQMP at the post entitlement stage in order to ensure storm water would be captured on-site and allowed to infiltrate into the ground such that post-development storm water runoff volume or time of concentration would not exceed pre-development storm water runoff. This would ensure runoff water would not exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

All impacts related to runoff during site preparation, construction, and operation would be addressed by the SWPPP and WQMP. These requirements are administered as a matter of policy and are required for all projects that would disturb more than one acre of land in accordance with the NPDES General Construction Permit. Therefore, impacts associated with storm water runoff would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

Adopted ND Analysis: An inspection of the site shows no evidence of concentrated drainage. The current Federal Emergency Management Agency (FEMA) maps indicate that the site is in a 100-year flood zone; however, the project will not place housing within a 100-year floodplain. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. As is the case with the project approved under the adopted ND, the modified project does not include the construction of housing.

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Therefore, impacts associated with the placement of housing within a 100-year flood hazard area would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?**

Adopted ND Analysis: An inspection of the site shows no evidence of concentrated drainage. The current FEMA maps indicate that the site is in a flood zone. The project has been conditioned by the City's Public Works Department to delineate the flood zone limits on the grading plans and to demonstrate on the plans that any building finished floor elevation shall be a 1-foot minimum above the 100-year base flood elevation. Additionally, prior to grading plan approval, the developer shall obtain a Conditional Letter of Map Revision based on Fill (CLOMR-F) from FEMA. Prior to issuance of the first building permit, the developer shall obtain a Letter of Map Revision based on Fill (LOMR-F) from FEMA. With implementation of these project conditions of approval, **no impact** would occur. No mitigation is required.

Modified Project Analysis: A floodway is the channel of a river, creek, or other watercourse and the adjacent floodplain. Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. The project site is located across the street from Line B, an open channel located along the west side of Heacock Street. According to FEMA Flood Insurance Rate Map No. 06065C0765G, a small portion of the project site along Heacock Street is located within the Zone AE 100-year flood zone, for which Base Flood Elevations have been determined.<sup>46</sup> Because new building construction, substantial improvements, and earth fill within a floodway will impede the flow of floodwater, the obstruction must be designed so it will not increase the upstream high-water elevation above a pre-established Base Flood Elevation (BFE). As is the case for the approved project, development of the modified project site requires flood-resistant construction pursuant to the regulations set forth in National Flood Insurance Program (NFIP) Section 60.3. Additionally, NFIP Section 60.3(d)(3) requires a FEMA permit for a Floodway Encroachment for construction in Zone AE 100-year flood zone, and the lowest floor (including basement) must be built above a BFE.

As is the case with the project approved under the adopted ND, the modified project will be conditioned to delineate the flood zone limits on the grading plans and to demonstrate on the plans that any structure pad finished floor elevation shall be a 1-foot minimum above the 100-year base flood elevation. Additionally, prior to grading plan approval, the developer shall obtain a Conditional Letter of Map Revision based on Fill (CLOMR-F) from FEMA. Prior to issuance of the first building permit, the developer shall obtain a Letter of Map Revision based on Fill (LOMR-F) from FEMA. As conditioned, impacts associated with the placement of structures within a 100-year flood hazard area would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

Adopted ND Analysis: The site is within a 100-year flood plain as shown on the FEMA maps, but it is outside of the delineated dam inundation area for Perris Dam at Lake Perris Reservoir. The project has been conditioned by the City's Public Works Department to delineate the flood zone limits on the grading plans and to demonstrate on the plans that any building finished floor elevation shall be a 1-foot minimum above the 100-year base flood elevation. Additionally, prior to grading plan approval, the developer shall obtain a Conditional Letter of Map Revision based on Fill (CLOMR-F) from FEMA. Prior to issuance of the first building permit, the developer shall

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<sup>46</sup> Flood Insurance Rate Map No. 06065C0765G. Map Revised August 28, 2008. Federal Emergency Management Agency (FEMA). <https://msc.fema.gov/portal/search#searchresultsanchor> (Accessed May 25, 2018).

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obtain a Letter of Map Revision based on Fill (LOMR-F) from FEMA. As designed and conditioned, this project will not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. According to FEMA Flood Insurance Rate Map No. 06065C0765G, a small portion of the project site along Heacock Street is located within the 100-year flood zone.<sup>47</sup> The project site is located outside of the delineated dam inundation area for Perris Dam at Lake Perris Reservoir.<sup>48</sup>

As is the case with the project approved under the adopted ND, development of the modified project site requires flood-resistant construction pursuant to the regulations set forth in NFIP Section 60.3. Additionally, NFIP Section 60.3(d)(3) requires a FEMA permit for a Floodway Encroachment for construction in Zone AE 100-year flood zone, and the lowest floor (including basement) must be built above a BFE. The modified project will be conditioned to delineate the flood zone limits on the grading plans and to demonstrate on the plans that any structure pad finished floor elevation will be a 1-foot minimum above the 100-year base flood elevation. Additionally, prior to grading plan approval, the developer shall obtain a Conditional Letter of Map Revision based on Fill (CLOMR-F) from FEMA. Prior to issuance of the first building permit, the developer shall obtain a Letter of Map Revision based on Fill (LOMR-F) from FEMA. As conditioned, impacts associated with the exposure people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, would be **the same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**j. Expose people of structures to inundation by seiche, tsunami, or mudflow?**

Adopted ND Analysis: The site is not identified in the General Plan as a location subject to seiche or mudflow. The project is outside of the delineated dam inundation area for Perris Dam at Lake Perris Reservoir. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. A tsunami is a series of waves generated in a body of water by a pulsating or abrupt disturbance that vertically displaces water. Inundation of the project's site by a tsunami is highly unlikely, as the project site is approximately 40 miles northeast of the Pacific Ocean. Seiches are oscillations in enclosed bodies of water that are caused by a number of factors, most often wind or seismic activity. The nearest major water feature is Lake Perris Reservoir, approximately 3.5 miles south-southeast of the project site and relatively down gradient. Therefore, seiche-related flooding is not anticipated to occur on site. The project site is fairly level and is not susceptible to mudslides. As described previously, the project site is located outside of the delineated dam inundation area for Perris Dam at Lake Perris Reservoir. Impacts associated with the exposure of people or structures to inundation by seiche, tsunami, or mudflow would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

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<sup>47</sup> Flood Insurance Rate Map No. 06065C0765G. Map Revised August 28, 2008. Federal Emergency Management Agency (FEMA). <https://msc.fema.gov/portal/search#searchresultsanchor> (Accessed May 25, 2018).

<sup>48</sup> Section 4.11 Flood and Dam Inundation Hazards. County of Riverside Environmental Impact Report No. 521. County of Riverside, February 2015.

9. Land Use/Planning.

a. Physically divide an established community?

Adopted ND Analysis: The project is located in an area that includes a mix of industrial land uses within the Moreno Valley Industrial Area Plan (SP #208) and existing tract homes in the RS-10 and R5 zones. Land uses to the north include vacant Business Park zoned land with the March Air Reserve Base to the west and existing tract homes in the RS-10 zone to the east. Land uses to the south include vacant Industrial zoned land with SP #208. The vacant 67-acre site immediately to the south is currently proposed for development of a 1,484,407 square-foot distribution facility. This project was scheduled for City Council review in August 2009. Also within proximity to the project site is a 1,560,064 square-foot distribution building located at the southwest corner of Indian Street and Iris Avenue, which was approved by the City Council in July 2008. The proposed warehouse facility as conditioned and designed is in conformance with the General Plan, the standards of the Industrial zone per the Moreno Valley Industrial Plan Area (SP #208), and the City's Municipal Code. The addition of the proposed use will not physically divide an established community. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. The modified project site is located on the northeast corner of Heacock Street and Revere Place. Surrounding non-industrial land uses include residential uses located to the east and vacant land to the north zoned for residential uses. Physically dividing an established community typically refers to installation of physically obstructive infrastructure such as an interstate highway or railroad tracks, or removal of access such as a bridge or local road that would impair mobility within an existing community.

As stated previously, the modified project is consistent with the existing "heavy manufacturing" and "office, business, and professional" land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208; therefore, the project is consistent with the land use assumptions of the City's General Plan. The modified project would be located in proximity to other industrial uses, and construction of the proposed corporate office campus on Parcel 4 (APN 0485-230-033) within the SP #208 300-foot Residential Buffer Zone would provide a physical buffer between the heavy manufacturing uses proposed on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and existing residential uses to the east in accordance with the SP #208. This would result in a practical transition from conforming "heavy manufacturing" uses to "office, business, and professional" uses (as permitted in the SP #208) to residential uses adjacent to the east of the modified project site.

Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped. No existing established community is located on the modified project site. As is the case with the project site analyzed under the adopted ND, no changes to the existing residential community adjacent to the east of the modified project site are proposed. Furthermore, the proposed modified project site would be served by fully improved public streets and other infrastructure and does not involve the subdivision of land or the creation of streets that could alter the existing surrounding pattern of development or established community. Therefore, impacts related to the physical division of an established community would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

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- b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

Adopted ND Analysis: There are no conflicts associated with any land use plans. The proposed project is consistent with the site's existing Industrial zone within the Moreno Valley Industrial Area Plan and the City's General Plan. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Pursuant to the SP #208, the project approved under the adopted ND consisted of "light wholesale, storage, and distribution uses." The modified project would consist of "heavy manufacturing" and "office, business, and professional" uses.

Pursuant to California Government Code Section 65450 et seq., Specific Plans provide detailed land use and infrastructure plans and policies for a certain geographic area and must be consistent with an applicable General Plan. The modified project is located within the SP #208. Although the proposed uses of Parcels 1, 2, 3, and 4 (APNs 0485-230-030 through -033) differ from those analyzed under the approved ND (i.e., "light wholesale, storage, and distribution" to "heavy manufacturing" and "office, business, and professional"), the proposed modified uses are consistent with the existing Industrial and 300-foot Residential Buffer Zone land use designations of SP #208 and the zoning classification under City Municipal Code Section 9.05.020 *Industrial (I) Districts*. Parcels 1, 2 and 3 (APNs 0485-230-030 through -032) of the SP #208 Master Plot Plan PA07-0035 are located within the SP #208 Industrial Area, while Parcel 4 (APN 0485-230-033) is located within the SP #208 300-foot Residential Buffer Zone. Therefore, in accordance with the Industrial Land Use Table of the Moreno Valley Industrial Area Plan (SP #208),<sup>49</sup> the modified project would entail development of a [heavy manufacturing] hydrogen electrolysis and steam methane reformation facility on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and the Stratos Fuel, Inc. corporate headquarters [professional office] campus on Parcel 4 (APN 0485-230-033). See Figure 3b.

The SP #208 defines "heavy manufacturing" as activities which may include "manufacturing, compounding of material, processing, assembly, packaging, treatment of fabrication. Activities in this area may have frequent rail or truck traffic and the transportation of heavy large-scale products. Characteristics of use activities permitted within this area may include massive structures outside of buildings such as cranes, conveyor systems, cooling towers or unscreened open-air storage of large quantities of raw, semi-refined, or finished products. Uses typically use raw materials to fabricate semi-finished products including, but not limited to: forge shops, metal fabricating facilities, open welding shops, lumber woodworking facilities, heavy machine shops, chemical storage and distribution, plastic plants, light or vacuum casting facilities, vehicular assembly plants, power plants, concrete product manufacturing activities, batch plants, scrap yards, air melting foundries, and aggregate or asphalt yards. Activities in this area may generate noise, odor, vibration, and illumination or particulate that may be obnoxious or offensive to vicinity."<sup>50</sup>

The SP #208 defines "office, business, and professional" as activities which may include "offices or firms or organizations providing professional, executive, management, or administrative services, such as architectural, engineering, real estate, insurance, investment, legal, and medical/dental offices. This classification includes medical/dental laboratories incidental to an office use, but excludes banks and savings and loan associations."<sup>51</sup>

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<sup>49</sup> *Moreno Valley Industrial Area Plan (Specific Plan 208)*. Industrial Land Use Table, Pages III-3 through III-5. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.

<sup>50</sup> *Ibid.* Page III-7.

<sup>51</sup> *Ibid.* Page III-8.

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The modified project is consistent with the existing “heavy manufacturing” and “office, business, and professional” land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208; therefore, the project is consistent with the land use assumptions of the City’s General Plan. The modified project would be located in proximity to other industrial uses, and construction of the proposed corporate office campus on Parcel 4 (APN 0485-230-033) within the SP #208 300-foot Residential Buffer Zone would provide a physical buffer between the heavy manufacturing uses proposed on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and existing residential uses to the east in accordance with the SP #208. Although the City’s General Plan Land Use Map<sup>52</sup> and Zoning Map<sup>53</sup> delineate the property adjacent to the north of the modified project site as Residential (R-5), no residential buffer overlay occurs along the modified project site’s northern property boundary. The designation within the General Plan of a site for a certain use does not necessarily mean that the site would be developed or maintained with that use during the planning period, as most development depends on property owner initiative. Currently, the property adjacent to the north is vacant with no known entitlement application submitted for its development. Therefore, the proposed modified project is entirely conforming to the anticipated and planned development schema envisioned for the SP #208.

As is the case with the project site analyzed under the adopted ND, the modified project is consistent with the existing land use designations for the site as specified in the SP #208. Impacts associated with this issue would be **the same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**c. Conflict with any applicable habitat conservation plan or natural community conservation plan?**

Adopted ND Analysis: The proposed project is located within the boundaries of the Stephen’s Kangaroo Rat Habitat Conservation Plan (SKR HCP). Also, the City is participating in the Multiple Species Habitat Conservation Plan (MSHCP), a comprehensive habitat conservation planning program addressing multiple species’ needs, including preservation of habitat and native vegetation in Western Riverside County. The project is not within any of the (MSHCP) criteria areas, Public or Quasi Public land, or any special survey areas. A burrowing owl survey assessment was completed for this site with no owls observed on the site. However, to ensure the burrowing owl has not occupied the site, a preconstruction survey will be conducted prior to construction. There is no riparian, riverine, or vernal pool (fairy shrimp) habitat on the project site. The project as designed and conditioned is consistent with the MSHCP and will have no conflict with the MSHCP or SKR HCP. The SKR Habitat plan will require a fee of \$500.00 per acre to be paid by the developer to assist in setting aside established protection areas for said habitat. The project will also be subject to fees to support the implementation of the Multiple Species Habitat Conservation Plan. The fee is currently \$6,597 per acre. Through payment of applicable fees, impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The project site under the modified project is encompassed by the site analyzed under the adopted ND. Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped, albeit routinely disked for weed abatement.

The City is located within the boundary of the adopted SKR-HCP administered by the Riverside County Habitat Conservation Agency (RCHCA). The SKR-HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. The SKR-HCP initially established Core Reserves for the conservation of key SKR populations. Outside of the Core Reserves, the SKR-HCP established a fee assessment area by which individual projects are granted coverage under the HCP by payment of SKR fees.

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<sup>52</sup> *Land Use Map, Figure 22.* City of Moreno Valley General Plan. Print date: November 2, 2017.

<sup>53</sup> *Zoning Map* City of Moreno Valley. Revision date: November 2, 2017.

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The MSHCP, through its goals for SKR, reaffirms the conservation goals of the SKR-HCP, while expanding the coverage area outside of the original coverage boundaries of the SKR-HCP. Neither the SKR-HCP nor MSHCP requires project-specific SKR surveys for sites located outside of the existing Core Reserves. Instead, payments of SKR fees are sufficient to obtain take authorization for SKR, unless specific lands are targeted for conservation by SKR-HCP or MSHCP. In accordance with the California Endangered Species Act, the SKR-HCP establishes a mitigation strategy based on establishment of reserves for the SKR aided by a per-acre mitigation fee levied by Riverside County pursuant to Ordinance No. 663.<sup>54</sup> Therefore, the project is required to pay a fee of \$500 per gross acre of the project site proposed for development.

Additionally, the modified project site is within the MSHCP. The MSHCP was conceived, developed, and is being implemented specifically to address the direct, indirect, cumulative, and growth-related effects on covered species resulting from build out of planned land use and infrastructure, including the proposed modified project. The MSHCP involves efforts by the County, State, and federal governments, the fourteen cities in western Riverside County, and private and public entities engaged in construction activities that potentially affect the species covered under the MSHCP.

A review of the Riverside Conservation Authority (RCA) MSHCP Information Application<sup>55</sup> indicates the modified project site (APNs 0485-230-0030 through -033) is not located within any MSHCP cellgroup or criteria cell and therefore has no conservation requirements toward building out the MSHCP Reserve. The RCA MSHCP Information Application also reveals the modified project site is not located within any amphibian, owl, criteria area, mammal, or narrow endemic plant survey areas; however, the vacant parcel adjacent to the north (APN 0485-230-028) is located within a burrowing owl survey area. Accordingly, it is possible that burrowing owls may occur on the project site. Therefore, it is reasonable to conclude the site-specific conditions prescribed in the adopted ND (i.e., project conditioned to complete a pre-construction survey for burrowing owl prior to any disturbance of the site) would still apply to the modified project site, so the modified project will be conditioned to conduct a preconstruction survey as a condition of approval in the same manner as the approved project. In addition, the project proponent is required to comply with the MBTA and the California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3515) to protect migratory birds through a pre-construction nesting survey during the nesting season (generally January 1 – August 31). The nesting survey is required if ground disturbance will occur in the nesting season. The nesting bird survey can be conducted at the same time as the burrowing owl survey. Additionally, pursuant to the California Endangered Species Act, the MSHCP establishes a mitigation strategy based on establishment of reserves for species listed under the MSHCP aided by a per-acre mitigation fee levied by Riverside County pursuant to Ordinance No. 810.2.<sup>56</sup> Therefore, the project is required to pay a fee of \$6,914 per acre of the project site proposed for development.

Therefore, through compliance with Riverside County Ordinance No. 663 and No. 810.2, impacts from conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

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<sup>54</sup> Ordinance No. 663. County of Riverside. <http://www.rivcocob.org/ords/600/663.10.pdf> (Accessed May 24, 2018).

<sup>55</sup> Western Riverside County Multiple Species Habitat Conservation Plan. Riverside Conservation Authority MSHCP Information Application. <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=2ba3285ccc8841ed978d2d825e74c5fa> (Accessed May 24, 2018).

<sup>56</sup> Ordinance No. 810.2. County of Riverside. <http://www.rivcocob.org/ords/800/810.htm> (Accessed May 24, 2018).



**10. Mineral Resources.**

**a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

Adopted ND Analysis: The project site is located in an urbanized area with additional development occurring in the vicinity. No active mines or mineral recovery programs are currently active within the project site. No mineral deposits have been identified in the General Plan; consequently, development of the project site would not conflict with a mineral recovery plan as adopted by the General Plan. Therefore, **no significant impacts** would occur, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the physical conditions applicable to the adopted ND would apply to the modified project site. Accordingly, construction of the modified project would not result in the loss of availability of a known mineral resource that would be value to the region and residents of the state. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

Adopted ND Analysis: The project site is located in an urbanized area with additional development occurring in the vicinity. No active mines or mineral recovery programs are currently active within the project site. No mineral deposits have been identified in the General Plan; consequently, development of the project site would not conflict with a mineral recovery plan as adopted by the General Plan. Therefore, **no significant impacts** would occur, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the conditions applied under the adopted ND would apply to the modified project site. Accordingly, no mineral deposits have been identified in the General Plan, so development of the modified project site as proposed would not result in the loss of availability of a locally important mineral resource recovery site. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**11. Noise**

**a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Adopted ND Analysis: The noise analysis of the approved project, consisting of seven distribution warehouses on seven separate parcels, evaluated construction (short-term) and operational (long term) noise. The project's short-term noise impacts during construction are considered less than significant through compliance with City Municipal Code limits on construction hours (grading activities are allowed between the hours of 7:00 A.M. and 8:00 P.M.; general construction is allowed between the hours of 6:00 A.M. and 8:00 P.M. weekdays or 7:00 A.M. and 8:00 P. M. for weekends or national holidays. Additionally, the project has been conditioned to locate equipment staging at the furthest location possible from adjacent residences as well as position stationary construction equipment so that the emitted noise is directed away from adjacent residences. All construction equipment will be equipped with properly operating and maintained mufflers. Established City procedures for plan check, permit issuance, and construction inspection, ensure project implementation consistent with the conditions of approval.

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The operational analysis considered major streets within an extended influence area generally defined by Heacock Street on the west, Cactus Avenue on the north, Oleander Avenue (Harley Knox Boulevard) on the south, and Perris Boulevard on the east. The analysis concluded that project traffic would increase noise levels within 50 feet of the analyzed roadways by 0.0 to 2.3 decibels. Inasmuch as the projected increases are well below the accepted significance threshold of 5 decibels, and the project would not contribute to any new exceedances of the 65 CNEL exterior standard for road segments with adjoining residential uses, project impacts in this regard are **less than significant**.

The on-site operational activities associated with future light industrial land uses would be screened from view from residential land uses by 8-foot-tall walls. These walls, required under City standards for aesthetic purposes, also provide noise attenuation to reduce levels at the nearby residences below the City's exterior standard of 65 decibels (CNEL). The installation of the screening walls is a condition of approval of the project. The project also has been conditioned for consistency with Municipal Code to ensure that loudspeakers, bells, gongs, buzzers, or other noise attention devices installed on the project site are designed so that the noise levels at all property lines will be at or below 55 dBA. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The proposed modified project, consistent with the previously adopted ND, has the potential to impact surrounding sensitive uses associated with short-term construction, long-term off-site traffic, and long-term off-site operations. Although the modified project site is in a developing industrial district, there are existing residential uses to the east. In recognition of these existing and proposed sensitive receptors, a project-specific noise analysis is provided below.

**Off-site Traffic Noise Impacts:** The noise standards specified in the City's General Plan Noise Element are used as a guideline to evaluate the acceptability of the noise levels generated by off-site traffic impacts. The City requires that the exterior active use areas (such as backyards or patios) not exceed 65 dBA CNEL.

As detailed in Section IV(16)(a), the trip generation associated with the modified project would be significantly less than the equivalent trip generation for the project approved under the ND. Therefore, consistent with the previously completed ND, the analysis of the modified project's contribution to increased noise levels along area roadways considered major streets within an extended influence area generally defined by Heacock Street on the west, Cactus Avenue on the north, Oleander Avenue (Harley Knox Boulevard) on the south, and Perris Boulevard on the east. The analysis concluded that modified project traffic would increase noise levels within 50 feet of the analyzed roadways by 0.0 to 2.3 decibels. Inasmuch as the projected increases are well below the accepted significance threshold of 5 decibels, and the modified project would not contribute to any new exceedances of the 65 CNEL exterior standard for road segments with adjoining residential uses, impacts from roadway noise generated by the proposed modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**Off-site Operational Noise Impacts:** Other short-term noise impacts, such as on-site stationary sources, are regulated by the noise ordinance. As presented in Section 11.80.030, the daytime and nighttime exterior noise level standards for residential uses are 60 dBA  $L_{eq}$  and 55 dBA  $L_{eq}$ , respectively.

Heating, ventilation, and air conditioning (HVAC) equipment at the proposed office headquarters in Parcel 4 (APN 0485-230-033) as well as delivery trucks and compressor operations associated with the transfill station in Parcel 3 (APN 0485-230-032) and steam methane reformation operations (SMR) in Parcel 2 (APN 0485-230-031), would potentially affect the off-site sensitive uses.

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For the proposed office headquarters, the building proposed nearest to the existing single-family homes to the east, it is anticipated that the HVAC equipment would be located at either ground level or on the roof of the proposed building. To be conservative, it is assumed that the HVAC equipment may be located as close as 50 feet from the existing property line. At this distance and based on a 6 dBA reduction per doubling of distance, the unmitigated noise level would be reduced by approximately 20 dBA Leq using a 5 foot reference distance.

In order to avoid a significant impact, noise levels generated by HVAC equipment should be 55 dBA or less at the sensitive receptor. Taking into account the distance, the baseline noise level of the HVAC equipment should be 75 dBA or less ( $55 \text{ dBA} + 20 \text{ dBA} = 75 \text{ dBA}$ ) when measured at a distance of 5 ft. Research of several manufacturers' (e.g., Trane) technical data revealed that there are residential air conditioners with noise levels with an approximate range from 57 to 75 LwA (sound power level) or 42.3 to 60.3 dBA Leq when measured at a distance of 5 ft. The developer has the option to install HVAC equipment that has a reference noise level of 75 dBA at 5 feet or less or the implement project design features such as a rooftop-parapet wall or enclosure such that the 55 dBA Leq noise standard is met at the neighboring residential uses to the east.

For the proposed hydrogen facility, the noise associated with normal operations occurs when the compressors, located at the transfill station in Parcel 3, are in use to fill delivery trucks and the operation of the SMR station at Parcel 2. Based on reference information provided by the applicant, noise levels associated with the compressors and SMR are 85 dBA and 88 dBA when measured at a distance of 1 meter or approximately 3 feet, respectively. Because each pad has the potential to operate continuously for a period of an hour or more, it is assumed that the reference noise level will also be an hourly noise level. Parcel 3 is located approximately 660 feet west of the existing single-family residences. At this distance, noise associated with compressor operations would be attenuated by approximately 46 dBA bringing down the noise level to 39 dBA Leq. Parcel 2 is located approximately 860 feet west of the existing single-family residences. At this distance, noise associated with SMR operations would be attenuated by approximately 49 dBA bringing down the noise level to 36 dBA Leq. Additionally the modified project proposes to incorporate concrete masonry walls around the transfill station pad that will further reduce potential noise impacts. Combining the levels from Parcels 2 and 3, noise levels have the potential to reach 41 dBA Leq before any additional reduction from proposed CMU and property line walls is considered. Because this noise level is well below both the daytime and nighttime standards for residential uses, noise impacts from operations associated with the compressors and steam methane reformation station would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

Similarly, delivery truck operations will occur at the transfill station in Parcel 3 (APN 0485-230-032). These operations would result in maximum noise similar to noise readings from loading and unloading activities for other projects, which would generate a noise level of 75 dBA Lmax at 50 feet. The closest residential uses are located approximately 660 feet to the east. This distance would provide a noise reduction of approximately 22 dBA. Shielding provided by the intervening building and property line CMU walls would provide further reduction. The loading/unloading noise to the residences to the east would be reduced to 53 dBA Lmax or lower at the nearest outdoor living (backyards) areas east of the modified project site. Because this noise level is below both the daytime and nighttime standards for residential uses, operations associated with truck deliveries would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**Short-Term Construction Noise Impacts:** Noise increases from the proposed modified project would be generated on a short-term basis during construction and would cease upon project completion. Noise impacts associated with construction activity are a function of the noise generated by heavy construction equipment, location, sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Noise-related construction impacts occur primarily during noise-sensitive times of day (such as early morning, evening, or nighttime), when

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lasting for extended periods of time, or when they are generated in areas immediately adjoining noise-sensitive land uses.

Hourly average construction generated noise levels of 81 dBA to 89 dBA are typical during busy construction periods, as measured at a distance of 50 feet from the center of the site, and drop off at a rate of approximately 6 dBA per doubling of the distance between the source and receptor.

The modified project's short-term noise impacts during construction are considered **less than significant** through compliance with City Municipal Code limits on construction hours (grading activities are allowed between the hours of 7:00 A.M. and 8:00 P.M.; general construction is allowed between the hours of 6:00 A.M. and 8:00 P.M. weekdays or 7:00 A.M. and 8:00 P.M. for weekends or national holidays). Additionally, the modified project has been conditioned to locate equipment staging at the farthest location possible from adjacent residences as well as position stationary construction equipment so that the emitted noise is directed away from adjacent residences. All construction equipment will be equipped with properly operating and maintained mufflers. Established City procedures for plan check, permit issuance, and construction inspection, ensure project implementation consistent with the conditions of approval. Therefore, construction noise impacts from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**

Approved ND Analysis: Development of the approved project may result in groundborne vibration or noise generated through the construction phase. However, this type of effect would be temporary and infrequent and would cease once construction is completed. Impacts would be **less than significant**. No mitigation is required.

Modified Project Analysis: Consistent with the previously approved ND, the primary sources of groundborne vibration during construction would be from large bulldozers and graders, which would be temporary and cease upon completion of construction. Other sources of groundborne vibration include delivery trucks. Generally, roadways in the project vicinity are well-maintained, and the proposed truck activities are not located within 100 feet of existing residences. Groundborne vibration from operation of the proposed modified project is expected to be minimal. Therefore impacts from groundborne vibration would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

Adopted ND Analysis: Please see response to Checklist Question 11(a).

Modified Project Analysis: Please see response to Checklist Question 11(a). Impacts from a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project would be **the same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Adopted ND Analysis: Please see response to Checklist Question 11(a).

Modified Project Analysis: Please see response to Checklist Question 11(a). Impacts from a substantial temporary or periodic increase in ambient noise levels in the project vicinity above

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levels existing without the project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

Adopted ND Analysis: The project is located across the street from the March Air Reserve Base but outside the boundaries of the Air Installation Compatibility Use Overlay District (AICUZ). This is an overlay district that restricts land use on properties located to the north and south of the runway of March Air Reserve Base. The AICUZ includes elements that address noise zones and accident potential zones. The project site is located outside the mapped noise contours associated with aircraft operations at the MARB airfield, indicating noise exposure due to aircraft operations in less than 60 decibels (CNEL). This is well below the accepted noise exposure level for business uses. March JPA identified that the project is restricted by FAA Part 77, which limits building heights in this area to 85-feet. The project as proposed has a maximum height of 36-feet and will not be in conflict with height restrictions from adjacent March Air Reserve Base. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The modified project footprint is encompassed by the project site analyzed under the adopted ND. According to Figure 5.4-1 *March Reserve Air Base Noise Impact Area*,<sup>57</sup> the proposed modified project site is located outside the March Reserve Air Base CNEL noise contour area, indicating noise exposure due to aircraft operations in less than 60 decibels (CNEL). This is well below the accepted noise exposure level for industrial uses. March JPA identified that the project is restricted by Federal Aviation Administration (FAA) Part 77, which limits building heights in this area to 85-feet. The project as proposed is not expected to include any structures that would reach 85 feet, and any development application submitted under the proposed modified project would be subject to City review and approval prior to issuance of grading and building permits to ensure consistency with FAA Part 77 and the design guidelines of the SP#208. Therefore, impacts from the exposure of people residing or working in the project area to excessive noise levels from a project within an airport land use plan would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

Adopted ND Analysis: There is no private airstrip within the vicinity of the approved project site or within the City of Moreno Valley. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: The modified project footprint is encompassed by the project site analyzed under the adopted ND. Since there is no private airstrip within the vicinity of the modified project site or within the City of Moreno Valley, impacts from the exposure of people residing or working in the project area to excessive noise levels from a project in the vicinity of a private air strip would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

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<sup>57</sup> Section 5.4 Noise. Figure 5.4-1, March Reserve Air Base Noise Impact Area. Moreno Valley General Plan Final Program EIR. July 2006.

**12. Population/Housing.**

- a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Adopted ND Analysis: As the site is considered an industrial site, with population and housing growth opportunities indirectly related, the project will be planned consistent with the Citywide plan. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: As is the case with the project approved under the adopted ND, the modified project does not include a housing component and does not include the extension of roads or other major infrastructure. There is the potential for the modified project to indirectly induce population growth by creating jobs (approximately 50 jobs are anticipated at full capacity operations) consistent with the anticipated land use assumptions of the SP #208; however, the modified project would only utilize a portion of the overall project site analyzed in the adopted ND. Therefore, population growth anticipated under the proposed modified project would be less than the growth already anticipated in the adopted ND for the approved project, and impacts related to population growth would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

Adopted ND Analysis: There are no residences on site. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped. No existing housing occurs on the modified project site. As is the case with project approved under the adopted ND, the modified project would not displace any existing housing and would not necessitate the construction of replacement housing elsewhere. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

Adopted ND Analysis: There are no existing residences on site. The project will not displace any residents. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Although the majority of the project site analyzed under the adopted ND has since been developed with distribution warehouse uses, the portion of the project site proposed for development pursuant to the modified project remains largely undeveloped. There is no existing housing on the modified project site, and the modified project would not displace people. As is the case with project approved under the adopted ND, construction of replacement housing would not be necessary. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**13. Public Services.**

**Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically**

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**altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

**a. Fire protection?**

Adopted ND Analysis: There will be incremental increase in the demand for fire services. These services would be needed with or without the project. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Fire protection services within the City are provided by the Moreno Valley Fire Department (MVFD). Future uses facilitated by the proposed modified project may increase the demand for fire protection services, but development of the site under the approved ND also would increase demand for fire protection services. Although no specific development proposal or site plan under the proposed modified project has been submitted to the City to date, any development application under the proposed modified project would be evaluated by the MVFD on its ability to provide proper fire protection to the development. Additionally, the proposed project would be required to pay service and development fees to the MVFD. Such fees would be used to fund capital costs associated with acquiring land for new fire stations, constructing new fire stations, purchasing fire equipment, and providing for additional staff as needed and as identified by the City. Any construction of future fire protection facilities in the City would require project-level environmental review and site-specific mitigation as appropriate in order to ensure significant environmental impacts are avoided or mitigated.

According to the City's General Plan, a five-minute response time is considered to be the maximum time standard for serving urban and suburban uses.<sup>58</sup> The project site is located in an industrial area surrounded by industrial, residential, and military development in a relatively low fire hazard severity zone<sup>59</sup> that is already served by the MVFD. The closest fire station to the modified project site is Riverside County Fire/Moreno Valley Station 65 located at 15111 Indian Street, approximately 1.3 miles northeast of the project site. Average travel time between the nearest fire station and the project site is between 2 and 3 minutes, and through compliance with California Vehicle Code 21806(A)(1), requiring all vehicles to yield to emergency vehicles, travel time between the nearest fire station and the project site is not expected to exceed three minutes. The second-nearest fire station is Riverside County Fire/Moreno Valley Station 91 located at 16110 Lasselle Street, approximately 2.5 miles east of the project site. Average travel time between Fire Station 91 and the modified project site is 6 minutes. Additionally, the City maintains mutual aid agreements with surrounding cities (i.e., Riverside, Perris), as well as with the County of Riverside, which allow for the services of nearby fire departments to assist the City during major emergencies.

Project design features incorporated into the structural design and layout of any future site development would keep service demand increases to a minimum. For example, the project would be constructed in accordance with NFPA 2, IFC, NEC, and the 2016 CBC which require all onsite structures to incorporate construction techniques and materials such as roofs, eaves, exterior walls, vents, appendages, windows, and doors resistant to and/or to perform at high levels against ignition during the exposure to fires. Fire sprinklers would be incorporated into the building design to further reduce fire risk and service demand. Additionally, fire hydrants will be installed throughout the modified project site in accordance with CBC, NFPA 2, and IFC regulations, and the SP #208 Project Water System Plan meets the City's fire flow requirements.

The NFPA 2 code provides fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas as well as cryogenic liquid form. If hydrogen were to leak on-site, it would disperse into the air almost immediately because it is so

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<sup>58</sup> *Safety Element*. Page 6-7. City of Moreno Valley General Plan. July 11, 2006.

<sup>59</sup> *Section 5.5-Hazards*. Figure 5.5-2, Floodplains and High Fire Hazard Areas. Moreno Valley General Plan Final Program EIR. July 2006.



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light. As required under NFPA 2 and the IFC, the proposed modified project shall be designed to prevent hydrogen from leaking and shall incorporate redundant systems to shut down automatically in the unlikely event an accident occurs. Stratos Fuel's on-site offices will monitor the facility both on-site and remotely by cameras and electronically 24 hours a day. Flame detection and hydrogen gas sensors shall be incorporated to ensure safe operating conditions. These elements, as well as programmed equipment alarms, will report back to a monitored systems control panel pursuant to IFC and NFPA 2 regulations. The project applicant will also be required to provide adequate access for emergency response apparatus and coordinate with the City Fire Department to establish preplanning strategies and ensure appropriate training and equipment for first responders in the event of an emergency. Pursuant to IFC 5003.9.1, the project applicant will invite the City Fire Department to tour the hydrogen facilities and focus attention on safety features and emergency shutoffs. Qualified project applicant staff will provide training to emergency response personnel to ensure proper understanding of appropriate response to a hydrogen incident. Additionally, the project applicant will maintain thermal imaging cameras and flame detectors on-site and ensure the City fire department has such equipment available for their use.

Based on the proposed modified project's location in a relatively low fire hazard severity zone in proximity to existing MVFD facilities capable of responding to emergencies at the project site within the City's stated response time objective of five minutes, development of the proposed modified project would not cause fire staffing, facilities, or equipment to operate at a deficient level of service necessitating construction of new or renovated facilities that could result in an environmental impact. Additionally, because the proposed project would be required to pay Development Impact Fees (DIFs) to fund future fire facilities and services, which would be subject to project- and site-specific environmental review, impacts associated with fire protection services would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant impact). No mitigation is required.

**b. Police protection?**

Adopted ND Analysis: There will be incremental increase in the demand for police services. These services would be needed with or without the project. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The modified project would entail development of a "heavy manufacturing" hydrogen electrolysis and steam methane reformation facility and the Stratos Fuel, Inc. corporate headquarters [professional office] campus, consistent with the land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208 and the zoning classification under City Municipal Code Section 9.05.020 *Industrial (I) Districts*. Although no specific development proposal or site plan has been submitted to the City to date, any development application under the proposed project would be evaluated by the Moreno Valley Police Department (MVPD) on its ability to provide proper police protection to the development. Additionally, the proposed project would be required to pay service and development fees to the MVPD. Such fees would be used to fund capital costs associated with acquiring land for new police stations, constructing new police stations, purchasing crime-fighting equipment for new police stations, and providing for additional staff as needed and as identified by the City. Any construction of future police facilities in the City would require project-level environmental review and site-specific mitigation as appropriate in order to ensure significant environmental impacts are avoided or mitigated.

The project site is located in an industrial site surrounded by urban development that is already served by the MVPD. The closest police station is located at 22850 Calle San Juan De Los Lagos approximately 2.8 miles northwest of the project site. Average travel time to the site is approximately 6 minutes, and through compliance with California Vehicle Code 21806(A)(1), requiring all vehicles to yield to emergency vehicles, travel time between the nearest police station and the project site is not expected to exceed 6 minutes. Additionally, the City maintains

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mutual aid agreements with surrounding cities (i.e., Riverside, Perris), as well as with the County of Riverside, which allow for the services of nearby police and sheriff departments to assist the City during major emergencies.

The modified project would incorporate crime prevention through environmental design features to keep service demand increases to a minimum. For example, development of the modified project site would incorporate public zones and private zones via physical and symbolic barriers to define acceptable uses of the proposed on-site facilities and determine who has a right to occupy such zones. Additionally, future development would be equipped with formal surveillance through the use of closed-circuit television, electronic monitoring, and potential security patrols, as well as informal surveillance such as architecture, landscaping, and lighting designed to minimize visual obstacles and eliminate places of concealment for potential assailants.

As is the case with the project approved under the adopted ND, the modified project would result in an incremental increase in the demand for police protection; however, based on the project's location in proximity to existing police facilities, development of the modified project itself would not cause police staffing, facilities or equipment to operate at a deficient level of service necessitating construction of new or renovated facilities that could result in an environmental impact. Additionally, because the proposed modified project would be required to pay DIFs to fund future police facilities and services, which would be subject to project- and site-specific environmental review, impacts related to police protection would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Schools?**

Adopted ND Analysis: The project does not include a residential component and would not increase local or regional populations; therefore, the impacts on school enrollment and facilities in the absence of a population increase is not necessary. There would be **less than significant impacts** on schools from the proposed project. No mitigation is required.

Modified Project Analysis: The project site under the modified project is encompassed by the site analyzed under the adopted ND. As is the case with the project approved under the adopted ND, the modified project does not include a housing component and would not directly increase the local population, including school-aged children. Therefore, impacts associated with this topic would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Parks?**

Adopted ND Analysis: The project does not include a residential component and would not increase local or regional populations; therefore, the impacts on parks in the absence of a population increase is not necessary. There would be **less than significant impacts** on parks from the proposed project. No mitigation is required.

Modified Project Analysis: The modified project does not include a residential component and would not increase local or regional populations; therefore, the construction or expansion of recreational facilities in the absence of a population increase is not necessary. The modified project would not cause a significant increase in the use of existing neighborhood or regional parks. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**e. Other public facilities?**

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Adopted ND Analysis: There will be incremental increase in the demand for new or altered public services including library, city hall, and city yard facilities. These facilities would be needed with or without the project. Environmental review has already been done for the proposed library as part of the future city hall complex. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Other public facilities could include libraries, meeting rooms, or city hall facilities generally utilized by residents of an area. The modified project is a "heavy manufacturing" and office use and does not include housing component. As is the case with the project approved under the adopted ND, the modified project would result in an incremental increase in the demand for public services, such as library, city hall, and city yard facilities; however, as identified in the adopted ND, these facilities would be needed with or without the modified project. Therefore, impacts associated with this topic would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**14. Recreation.**

**a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

Adopted ND Analysis: Neighborhood or regional parks are not associated with industrial projects; therefore, there will be **no impacts** associated on these facilities from the proposed project. No mitigation is required.

Modified Project Analysis: The modified project does not include a residential component and would not increase local or regional populations; therefore, the construction or expansion of recreational facilities in the absence of a population increase is not necessary. The modified project would not cause a significant increase in the use of existing neighborhood or regional parks. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

Adopted ND Analysis: Neighborhood or regional parks are not associated with industrial projects; therefore, there will be **no impacts** associated on these facilities from the proposed project. No mitigation is required.

Modified Project Analysis: The modified project does not include a residential component and would not increase local or regional populations; therefore, the construction or expansion of recreational facilities in the absence of a population increase is not necessary. As is the case with the project approved under the adopted ND, the modified project is an industrial project; construction of recreational facilities, resulting in an adverse physical effect on the environment, would not occur as a result of the modified project. Impacts associated with this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**15. Transportation/Traffic.**

- a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?**

Adopted ND Analysis: The project-specific traffic study estimates the proposed project will generate up to 2,853 trips per day, with 572 trips attributed to trucks. The traffic study evaluated project traffic impacts for both project-level and cumulative impacts for the project opening year of 2011. The analysis evaluated 26 intersections in an area generally defined by Interstate 215 on the west, Harley Knox Boulevard/Oleander Avenue on the south, Cactus Avenue on the north, and Perris Boulevard on the east.

Eleven intersections in the project area are projected to operate at an unacceptable level of service (LOS) for the cumulative “without project” scenario:

- Heacock Street (NS) at Cactus Avenue (EW)
- Heacock Street (NS) at Gentian Avenue (EW)
- Heacock Street (NS) at Iris Avenue (EW)
- Heacock Street (NS) at San Michele Road (EW)
- Heacock Street (NS) at Nandina Avenue (EW)
- Indian Street (NS) at Iris Avenue (EW)
- Indian Street (NS) at Nandina Avenue (EW)
- Indian Street (NS) at Oleander Avenue (EW)
- Perris Boulevard (NS) at Iris Avenue (EW)
- Perris Boulevard (NS) at San Michele Road (EW)
- Perris Boulevard (NS) at Oleander Avenue (EW)

Fourteen intersections are identified as operating at unacceptable level of the cumulative “with project” scenario – consisting of the eleven above, with the addition of Heacock Street at Revere Place, Concord Way at Iris Avenue, and Perris Boulevard at Nandina Avenue. The project has been conditioned to complete street improvements at Heacock and Revere and Concord and Iris to address the unacceptable level of LOS at these intersections. The Perris/Oleander intersection was evaluated as an unsignalized intersection. The intersection has been signalized since the commencement of the traffic study and operates at a satisfactory LOS. The intersection of Perris/Nandina will be reconstructed as part of a City Capital Project that will provide satisfactory LOS. The intersection of Heacock/Cactus will be address in a future City Capital Project.

The project has been conditioned to pay standard development impact fees (DIF) and Transportation Uniform Mitigation Fees (TUMF). Payment of DIF and TUMF are considered adequate to mitigate project impacts on the remaining intersections that currently operate at an unacceptable level and are not substantially worsened by the project.

Project conditions of approval require improvement to the perimeter project streets (Heacock Street and Iris Avenue), the installation of a median in Iris Avenue along the project site’s frontage as well as fair share contribution towards the installation of a signal at Perris and Suburban, which is not in any existing fee program.

The above-noted improvements specified in the project conditions of approval would be completed in accordance with established City programs to administer such conditions of approval and would provide mitigation of project-level impacts to below a level of significance. The project as designed and conditioned will reduce the project’s contribution to cumulative impacts to below a level of significance. Established City procedures for plan check and permit issuance ensure collection of fees prior to building permit issuance or occupancy. Impacts would be **less than significant**, and no mitigation is required.

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Modified Project Analysis: The modified project would replace the equivalent of approximately 157,882 square feet of the total 616,684 square feet (approximately 25.6 percent) of warehouse uses approved under the ND for the original Master Plot Plan PA07-0035. Applying this percentage to the trip generation for the approved project, the resulting trip generation for the portion of the approved project being modified is approximately 730 trips per day<sup>60</sup>, with 146 trips<sup>61</sup> attributed to trucks. The modified project would develop approximately 90,000 square feet of heavy manufacturing and office uses, employing approximately 50 people and generating approximately 25 truck trips per day (primarily between the hours of 7 a.m. and 10 p.m. with some trips possibly occurring overnight) at full-capacity operations. Therefore, the trip generation associated with the modified project would be **significantly less** than the equivalent trip generation for the project approved under the ND.

As is the case with the project approved under the adopted ND, the modified project would be conditioned to complete street improvements at Heacock and Revere to address unacceptable level of LOS at these intersections. In addition, modified project would be conditioned to pay standard development impact fees (DIF) and Transportation Uniform Mitigation Fees (TUMF). Since the trip generation associated with the modified project would be significantly less than the equivalent trip generation for the project approved under the ND, payment of DIF and TUMF are considered adequate to mitigate any project impacts on the remaining intersections that currently operate at an unacceptable level and are not substantially worsened by the project. Established City procedures for plan check and permit issuance ensure collection of fees prior to building permit issuance or occupancy.

Facilities proposed under the modified project would not generate more trips or create additional traffic impacts than those proposed and approved under the adopted ND. Therefore, traffic impacts would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?**

Adopted ND Analysis: The project is consistent with the General Plan. The project will not exceed a level of service established by an adopted regional congestion management plan. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: As the Congestion Management Agency (CMA) for Riverside County, the Riverside County Transportation Commission (RCTC) is responsible for establishing, implementing, and monitoring the County's Congestion Management Program (CMP). Through its implementation of the CMP, RCTC works to ensure that roadways operate at acceptable levels of service and reviews development proposals to ensure that transportation impacts are minimized. Most local agencies in Riverside County, including Moreno Valley, have adopted LOS standards of "C" or "D" in an effort to maintain a desired LOS for the local circulation system. To address CMP legislative requirements, and establish a minimum LOS along the regional system of roadways and highways within the County, RCTC approved a minimum traffic LOS standard of "E."<sup>62</sup> None of the roadways in the project vicinity are included in the CMP system of roadways and highways.

As identified previously, the trip generation associated with the modified project would be significantly less than the equivalent trip generation for the project approved under the ND. As is the case with the project approved under the adopted ND, the modified project would be conditioned to complete street improvements and pay standard DIF and TUMF. Therefore, impacts associated with exceeding a LOS standard established by the RCTC would be the **same**

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<sup>60</sup>  $2,853 \times 0.256 = 730$  trips per day

<sup>61</sup>  $572 \div 2,853 = 0.20 \times 730 = 146$  truck trips per day

<sup>62</sup> 2011 Riverside County Congestion Management Program. VRPA Technologies, Inc. December 14, 2011.

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**or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

Adopted ND Analysis: The project is located across the street from March Air Reserve Base but outside of the boundaries of the Air Installation Compatibility Use Overlay District (AICUZ). The proposed project is consistent with the site's existing Industrial zone and the General Plan. This project will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: The modified project footprint is encompassed by the project site analyzed under the adopted ND. According to Map MA-1, Compatibility Map, of the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan,<sup>63</sup> which is intended to promote compatible land uses in nongovernment areas adjacent to military airfields, the modified project site is located within the March Air Reserve Base Compatibility Zone D (Flight Corridor Buffer), as detailed in Table 7A. Additionally, The March Joint Powers Authority<sup>64</sup> identifies the modified project site within Federal Aviation Administration (FAA) Part 77 Notification Area, which limits building heights in this area to 85-feet.

The project as proposed is not expected to include any structures that would reach 85 feet, and any development application submitted under the proposed modified project would be subject to City review and approval prior to issuance of grading and building permits to ensure consistency with Compatibility Zone D of the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, FAA Part 77, and the design guidelines of the SP #208. Furthermore, the modified project would be reviewed by the Riverside County Airport Land Use Commission (ALUC) pursuant to California Public Utilities Code Section 21676 to ensure consistency with the Riverside County Airport Land Use Compatibility Plan. Any project-specific conditions imposed by the ALUC will be implemented as applicable so that execution of the proposed modified project within Compatibility Zone D will occur in accordance with the ALUCP. Therefore, impacts to air traffic patterns would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

Adopted ND Analysis: As designed the project will not result in hazards due to a design feature. The project is not adjacent to any potential incompatible uses. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Two street frontages (Heacock Street and Revere Place) exist along the site's western and southern boundaries, respectively, and are improved with curbs, gutters, and streetlights. At this time, no specific development proposal or site plan is available; therefore, specific site access information (e.g., driveway locations) has not been determined. However, the design of roadways must provide adequate sight distance and traffic control measures in accordance with City standards. This provision is normally realized through roadway design to facilitate roadway traffic flows. Roadway frontage improvements in and around the project site would be designed and constructed to satisfy all City requirements for street widths, corner radii, intersection control as well as incorporate design standards tailored specifically to site access requirements. Adherence to applicable City requirements would ensure the modified project would not include any sharp curves or dangerous driveway intersections.

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<sup>63</sup> *March Air Reserve base/Inland Port Airport Land Use Compatibility Plan*. Map MA-1, Compatibility Map. Riverside County Airport Land Use Commission. November 13, 2014.

<sup>64</sup> *Ibid.* Map MA-1, Compatibility Map and Map MA-2, Airspace Protection Surfaces.

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As stated previously, the modified project is consistent with the existing “heavy manufacturing” and “office, business, and professional” land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208. The modified project would be located in proximity to other industrial uses, and construction of the proposed corporate office campus on Parcel 4 (APN 0485-230-033) within the SP #208 300-foot Residential Buffer Zone would provide a physical buffer between the heavy manufacturing uses proposed on Parcels 1, 2, and 3 (APNs 0485-230-030 through -032) and existing residential uses to the east. Therefore, impacts associated with a substantial increase in hazards due to a design feature or incompatible uses would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**e. Result in inadequate emergency access?**

Adopted ND Analysis: The project has been designed in a manner consistent with City standards. The site will be readily accessible for emergency access. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: The developers of the modified project would be required to design, construct, and maintain structures, roadways, and facilities to provide for adequate emergency access and evacuation. As discussed in detail in response to Checklist Question 7(a), the proposed modified project will be subject to several strict local, state, and federal laws, including but not limited to Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, CalARP Program, California Health and Safety Code Section 25503 and 25507, DEH, PHMSA, FMCSA, DOT, HMTA, CEC, OSHA, NFPA 2, IFC, IFGC, and NEC, which are designed to support emergency response and evacuation in the unlikely event of an incident.

Any street closures necessary to construct the proposed modified project will be temporary and managed in compliance with California Fire Code and all City codes and regulations so as not to interfere or impede with any emergency access. The project applicant will be required to provide adequate access for emergency response apparatus and coordinate with the City Fire Department to establish preplanning strategies and ensure appropriate training and equipment for first responders in the event of an emergency. Pursuant to IFC 5003.9.1, the project applicant will invite the City Fire Department to tour the hydrogen facilities and focus attention on safety features and emergency shutoffs. Qualified project applicant staff will provide training to emergency response personnel to ensure proper understanding of appropriate response to a hydrogen incident. Additionally, the project applicant will maintain thermal imaging cameras and flame detectors on-site and ensure the City fire department has such equipment available for their use.

Any development application submitted under the proposed modified project would be reviewed by the City Engineering, Fire, and Police Departments as part of City review and approval prior to issuance of building permits to ensure construction and operation of the modified project would not result in inadequate emergency access. Therefore, impacts would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**f. Result in inadequate parking capacity?**

Adopted ND Analysis: The project has provided adequate parking based on the City's Municipal Code and the requirements of the SP #208. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Section 9.11.040, *Off-Street Parking Requirements*, of the City's Municipal Code specifies the off-street parking requirements for various uses, including the following uses applicable to the modified project:

- Manufacturing: 1 parking space per 500 square feet of gross floor area



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- Business and professional offices: 1 parking space per 250 square feet of gross floor area<sup>65</sup>

In addition, the City's Municipal Code requires the provision of handicap accessible parking spaces depending on the total number of total spaces provided. At this time, no specific development proposal or site plan is available for the modified project. However, the modified project would be required to provide adequate parking consistent with the City's Municipal Code. Adherence to the parking requirements specified by the City would ensure impacts related to inadequate parking capacity would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

### **g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

Adopted ND Analysis: The project as designed and conditioned would not conflict with adopted transportation policies. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: SP #208 includes provisions for non-vehicular traffic within the plan area consisting of pedestrian sidewalks on all street rights-of-way and Class II or III bikeways on all arterials, consistent with the Circulation Element of the City of Moreno General Plan.<sup>66</sup> The project site under the modified project is encompassed by the site analyzed under the adopted ND. Two street frontages (Heacock Street and Revere Place) existing along the project site's western and southern boundaries, respectively. Heacock Street is currently improved with a sidewalk. Consistent with the requirements of the Moreno Valley Industrial Plan, the developers of the modified project would be required to provide sidewalks along both street frontages (if they do not currently exist). Adherence to the non-vehicular traffic requirements specified by the City would ensure impacts related to alternative transportation would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

## **16. Utilities/Service Systems.**

### **a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

Adopted ND Analysis: The project will not exceed wastewater treatment requirements of the Regional Water Quality Control Board. The project would not exceed the existing or planned capacity of the Moreno Water Reclamation Facility. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Local wastewater treatment operators are responsible for complying with federal regulations, both for wastewater plant operation and the collection systems (e.g., sanitary sewers) that convey wastewater to the wastewater treatment facility. Proper operation and maintenance is critical for sewage collection and treatment, as impacts from these processes can degrade water resources and affect human health. For these reasons, publicly owned treatment works (POTWs) receive Waste Discharge Requirements (WDRs) to ensure that such wastewater facilities operate in compliance with water quality regulations set forth by the State. WDRs, issued by the State, establish effluent limits on the kinds and quantities of pollutants that POTWs can discharge. These permits also contain pollutant monitoring, recordkeeping, and reporting requirements. Each POTW that intends to discharge into the nation's waters must obtain a WDR prior to initiating its discharge.

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<sup>65</sup> Section 9.11.040, *Off-Street Parking Requirements*, Moreno Valley Municipal Code. City of Moreno Valley, February 2017.

<sup>66</sup> *Moreno Valley Industrial Area Plan (Specific Plan 208)*. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.

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Wastewater flows from the proposed modified project would be handled by the Eastern Municipal Water District (EMWD) and would be conveyed to the Moreno Valley Regional Water Reclamation Facility (MVRWRF). The MVRWRF has a capacity to treat 16 million gallons of wastewater per day (mgd) and a capacity to expand to 41 mgd. All new development is required to comply with all provisions of the NPDES program and the City's Municipal Separate Storm Sewer Permit (MS4), as enforced by the RWQCB. The proposed project would result in typical wastewater discharges that would not require new methods or equipment for treatment that are not currently permitted for the MVRWRF. Compliance with condition or permit requirements established by the City, WDRs outlined by the RWQCB, as well as requirements included in the NPDES permit and wastewater conveyance standards would ensure that wastewater discharges generated by the modified project and treated by the wastewater treatment facility system would not exceed applicable RWQCB wastewater treatment requirements. Therefore, impacts associated with exceedance of RWQCB wastewater treatment requirements would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Adopted ND Analysis: The project will not exceed wastewater treatment capacity of the Moreno Water Reclamation Facility. No impact would occur, and no mitigation is required.

Modified Project Analysis: Wastewater flows from the proposed modified project would be handled by the EMWD and would be conveyed to the MVRWRF as identified in response to Checklist Question 16(a). The MVRWRF has a capacity to treat 16 million gallons of wastewater per day (mgd) with an existing average inflow of approximately 10.6 mgd per day. Under current conditions, the average daily surplus treatment capacity is approximately 5.4 mgd, and the MVRWRF has capacity to expand to 41 mgd. Full buildout of the City of Moreno General Plan will exceed the existing capacity of the MVRWRF; however, expansion of the MVRWRF is planned in and around the northern portion of the existing facility to accommodate future demand as buildout of the General Plan occurs. EMWD has prepared a Water Supply Strategic Plan and Recycled Water Strategic and Master Plan for its service area and levies connection charges on new development to finance the construction of necessary facilities, which would be subject to project- and site-specific environmental review under CEQA, to ensure adequate service. Development of the proposed modified project anticipates the generation of up to 50 employees, whose incremental contribution to water and wastewater treatment demand would not in and of itself exceed the existing or planned capacity of the MVRWRF or require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

General Plan Policy 2.12.1 requires that adequate septic or sewer service capacity will be available in a timely manner prior to approval of any development application. Policy 2.13.3 requires each project to provide the infrastructure needed to support the project at the time it is needed.<sup>67</sup> Utility infrastructure would be constructed on-site to interconnect to the City's existing infrastructure within the City right-of-way on Heacock Street and Revere Place. As outlined in the project description, the modified project would be implemented in phases; project operations would not expand into subsequent phases unless and until the City's utility infrastructure is already in place to support proposed development. Therefore, potential impacts related to this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

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<sup>67</sup> Section 5.13 Public Services and Utilities. Moreno Valley General Plan Final Program EIR. City of Moreno Valley, July 2006.

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**c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Adopted ND Analysis: The project will not require or result in the construction of unplanned storm water drainage facilities or expansion of existing facilities. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Currently, the modified project site is vacant, so construction of the proposed hydrogen electrolysis and steam methane reformation facility (heavy manufacturing) and associated professional office campus (office, business, and professional) would increase impervious surfaces. The 2010 Santa Ana Region National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit requires that a Water Quality Management Plan (WQMP) be prepared for all projects that meet the "Priority Development Project" categories and thresholds specified in the Water Quality Management Plan for the Santa Ana Region of Riverside County. The modified project meets the category of "New Development Projects," which include new developments that create 10,000 square feet or more of impervious surface, including commercial and industrial projects.<sup>68</sup> In accordance with the provisions in the NPDES permit, the project will be: designed to minimize imperviousness, detain runoff, and infiltrate, reuse or evapotranspire runoff, where feasible; cover or control sources of stormwater pollutants; use Low Impact Development (LID) to infiltrate, evapotranspire, harvest and use, or treat runoff from impervious surfaces; ensure runoff does not create a Hydrologic Condition of Concern (HCOC); and maintain stormwater Best Management Practices (BMPs). On-site bioswales will be incorporated into the project landscaping to ensure stormwater runoff from conversion of permeable surfaces to impermeable surfaces is managed in accordance with applicable regulations.

Approvals of drainage features/improvements are made through the City's plan check process. As part of this process, all project-related drainage features would be required to meet the City's Public Works Division standards. The proposed on-site storm drain system would be designed, installed, and maintained per Public Works Division standards and pursuant to the NPDES permit. Because the project would be required to design and install drainage systems according to standards and provisions set forth by the City, impacts related to this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant impact). No mitigation is required.

**d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

Adopted ND Analysis: This project was determined to not be a project of regional significance per CEQA guidelines, so the preparation of a Water Supply Assessment was not required. However, the water purveyor, Eastern Municipal Water District (EMWD), prepared an Urban Water Management Plan demonstrating that it has or will have sufficient water supplies available to serve urban development on the property. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Pursuant to Senate Bill 610 and California Water Code Section 10912(a)(7), a project would require a Water Supply Assessment if it would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project. According to the United States Census Bureau, Moreno Valley has an average of 3.91 persons per household,<sup>69</sup> and according to the EMWD 2015 UWMP, the baseline per capita demand of

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<sup>68</sup> *Water Quality Management Plan – A Guidance Document for the Santa Ana Region of Riverside County, Cities and County of Riverside*, October 22, 2012.

<sup>69</sup> *Quick Facts, City of Moreno Valley, United States Census Bureau.*  
<https://www.census.gov/quickfacts/fact/table/morenovalleycitycalifornia/HSD310216#viewtop> (Accessed May 26, 2018).

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water within its service territory is 197 gallons per day.<sup>70</sup> Therefore, a project within the City with a water demand of 385,135 gallons per day<sup>71</sup> would require a Water Supply Assessment.

By the time Phase 3 is fully operational, the project is expected to demand up to 150,000 gallons of water per day for hydrogen production, of which approximately 66.6 percent (100,000 gallons) is used by the equipment to make hydrogen while 33.3 percent (50,000 gallons) would be rejected and captured for recycling, re-purification, and reuse with subsequent batches. In addition, Table 5-7 of the EMWD 2015 UWMP calculates industrial per capita water demand to be 17.6 gallons per day, so the 50 employees expected by the proposed modified project would demand 880 gallons per day. Furthermore, Table 5-6 of the EMWD 2015 UWMP calculates the target water demand of one (1) acre of landscaping requires 3,063 gallons per day,<sup>72</sup> so the 8.82-acre proposed modified project site would require up to 27,016 gallons per day for landscaping. Therefore, as a worst case scenario assuming none of the water used for hydrogen production gets recycled and the entire 8.82-acre site would be landscaped, the proposed modified project is projected to demand approximately 177,896 gallons per day,<sup>73</sup> which is less than half the water demand of a project that would require a Water Supply Assessment.

Pursuant to California Government Code Section 65450 et seq., Specific Plans provide detailed land use and infrastructure plans and policies for a certain geographic area and must be consistent with an applicable General Plan. As stated previously, the modified project is consistent with the existing “heavy manufacturing” and “office, business, and professional” land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208; therefore, the project is consistent with the land use assumptions of the City’s General Plan. Furthermore, the EMWD water demands projected in its 2015 UWMP takes into account anticipated development growth in the City pursuant to the City’s General Plan. Therefore, the EMWD 2015 UWMP reflects and anticipates buildout of the SP #208 in its water supply and demand projections. As detailed in Tables ES-4 and ES-5 of the EMWD 2015 UWMP, the EMWD is projected to meet current and projected water demands through the year 2040 under normal, historic single-dry and historic multiple-dry year scenarios. EMWD’s 2015 UWMP also discloses that in the event of a water supply shortage or water emergency, the City has in place water shortage contingency plans which ensure provision of priority water services to all its existing and anticipated customers. Therefore, potential impacts related to water supply from development of the proposed modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**e. Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?**

Adopted ND Analysis: EMWD, the wastewater treatment provider, has adequate capacity to serve the project in addition to the provider’s existing commitments. EMWD has plans for major expansions of the Moreno Water Reclamation Facility. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Please refer to response to Checklist Question 16(b). Potential impacts related to this issue would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

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<sup>70</sup> 2015 Urban Water Management Plan. Page 5-3. Eastern Municipal Water District. June 2016.

<sup>71</sup> 500 dwelling units x 3.91 persons per dwelling unit x 197 gallons per capita per day = 385,135 gallons per day.

<sup>72</sup> 999 acres of landscape installed post-2010 demands 3,428 acre-feet per year or 9.39 acre-feet per day. 1 acre-foot = 325,851 gallons. Therefore, 325,851 gallons per day x 9.39 = 3,059,741 gallons per day ÷ 999 acres = 3,063 gallons per acre per day.

<sup>73</sup> 150,000 gallons per day for hydrogen production + 880 gallons per day for employees + 27,016 gallons per day for landscaping = 177,896 gallons per day.

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**f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

Adopted ND Analysis: The needs of the project for solid waste capacity would be negligible. The proposed project is expected to result in the use of utilities similar to a majority of industrial uses in the vicinity. The project will be served by a landfill in the Badlands with sufficient permitted capacity to accommodate the project's solid waste disposal needs. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: Solid waste collection is a "demand-responsive" service, and current service levels can be expanded and funded through user fees. Solid waste generated within the City is primarily deposited in the Riverside County Waste Management Department's (RCWMD) Badlands Landfill. Other County landfills in the area include the Lamb Canyon Landfill and El Sobrante Landfill. Waste Management of Inland Empire provides waste pick-up in Moreno Valley.<sup>74</sup>

Based on a solid waste generation of approximately 6 pounds per thousand square feet of industrial space per day,<sup>75</sup> and approximately 90,000 square feet of development estimated for the project, the proposed on-site manufacturing (hydrogen production facility) and office/business uses, would generate approximately 540 pounds (0.27 ton) of waste per day.<sup>76</sup> According to the RCWMD, full buildout of the City's General Plan will exceed the existing permitted capacity of its facilities; however, there is considerable expansion potential on these sites. Additionally, development of the proposed modified project anticipates the generation of up to 50 employees, whose incremental contribution to landfill demand would not in and of itself exceed the existing or planned capacity of the Badlands Landfill.

Development of the proposed project would not significantly affect current operations or the expected lifetime of the Badlands Landfill or other County landfills, as on-site uses would be required to comply with the City and State waste reduction and recycling standards. Furthermore, the modified project, comprised of approximately 90,000 square feet of development, would replace the equivalent of approximately 157,882 square feet of warehouse uses approved under the ND for the original Master Plot Plan PA07-0035, so solid waste generation under the modified project is expected to be less than it would be under the approved project. For these reasons, in addition to adherence to existing local, State, and federal solid waste requirements, potential impacts associated with landfill capacity would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

**g. Comply with federal, state, and local statutes and regulations related to solid waste?**

Adopted ND Analysis: The City is complying with State and federal regulations regarding solid waste. All future projects will comply with current policies regarding solid waste. **No impact** would occur, and no mitigation is required.

Modified Project Analysis: All uses within the City that generate waste are required to coordinate with a waste hauler to collect recyclable materials on a common schedule as established in applicable local, regional, and State programs. Additionally, all development within the City including the modified project is required to comply with applicable elements of AB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991), AB 939 (CalRecycle), and other local, State, and federal solid waste disposal standards. Through compliance with these solid waste disposal standards, impacts from conflict with statutes and regulations related to solid waste would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

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<sup>74</sup> Section 5.13 Public Services and Utilities. Moreno Valley General Plan Final Program EIR. City of Moreno Valley, July 2006.

<sup>75</sup> *Ibid.*

<sup>76</sup> 90,000 square feet x 6 pounds per thousand square feet per day = 540 pounds per day or 0.27 ton per day.

**17. Mandatory Findings of Significance.**

- a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Adopted ND Analysis: The project would not significantly degrade the quality of the environment or reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. There are no historic structures on the site, and there will be no impact to historic resources. The project will not eliminate important examples of the major periods of California history or prehistory. The analysis demonstrates that project and cumulative impacts would be **less than significant**. Finally, the project analyzed in the ND consists of a Master Plot Plan for a six building industrial park, a Plot Plan for a warehouse distribution building and a parcel map that would result in no substantial adverse health effects on human beings. Impacts would be **less than significant**, and no mitigation is required.

Modified Project Analysis: Since the modified project footprint is encompassed by the project site analyzed under the adopted ND, it is reasonable to conclude the conditions applied under the adopted ND would apply to the modified project site. The project site does not contain any federally-protected wetland, riparian habitat or other sensitive natural community. A review of the RCA MSHCP Information Application<sup>77</sup> reveals the modified project site (APNs 0485-230-030 through -033) is not located within any MSHCP cellgroup or criteria cell and therefore has no conservation requirements toward building out the MSHCP Reserve. The RCA MSHCP Information Application also reveals the project site is not located within any amphibian, owl, criteria area, mammal, or narrow endemic plant survey areas; however, the vacant parcel adjacent to the north (APN 0485-230-028) is located within a burrowing owl survey area. Accordingly, it is possible that burrowing owls may occur on the project site, so the project will be conditioned to protect migratory bird species, including burrowing owl, in accordance with the MBTA and the California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3515). The site-specific conditions prescribed in the adopted ND (i.e., project conditioned to complete a pre-construction survey for burrowing owl prior to any disturbance of the site) would still apply to the modified project site. The project proponent is required to comply with the MBTA and the California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3515) to protect migratory birds through a pre-construction nesting survey during the nesting season (generally January 1 – August 31). The nesting survey is required if site disturbance will occur in the nesting season. The nesting bird survey can be conducted at the same time as the burrowing owl survey. Additionally, through compliance with Riverside County Ordinance No. 663 and No. 810.2, the modified project will comply with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the quality of the environment, habitat of a fish or wildlife species, fish or wildlife populations, plant or animal communities, and/or rare or endangered plants or animals from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

There is no indication that archaeological, historical, or paleontological resources, or that any human remains, occur on the modified project site. The modified project would be required to comply with all applicable regulations protecting archaeological, historical, and paleontological resources and would be conditioned to cease excavation or construction activities if

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<sup>77</sup> *Western Riverside County Multiple Species Habitat Conservation Plan*. Riverside Conservation Authority MSHCP Information Application. <http://wrcra.maps.arcgis.com/apps/webappviewer/index.html?id=2ba3285ccc8841ed978d2d825e74c5fa> (Accessed May 24, 2018).

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archaeological, historical, or paleontological resources are identified during execution of the project. In accordance with State law, the modified project would be required to comply with Title 14, California Code of Regulations (CCR) § 15064.5 and [California] Public Resources Code (PRC) § 21083.2 *California Environmental Quality Act-Archeological Resources*, which enable the City to require the project applicant to make reasonable effort to preserve or mitigate impacts to any affected significant or unique archeological resource. Penal Code § 622 *Destruction of Sites*, establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archeological or historical interest or value, whether situated on private or public lands. California *Administrative Code, Title 14, Section 4307* states that no person shall remove, injure, deface or destroy any object of paleontological, archaeological, or historical interest or value. Furthermore, California Code of Regulations Section 1427 recognizes that California's archaeological resources need to be preserved and that every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor. Finally, construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097, and Section 7050.5 of the State Health and Safety Code to ensure proper treatment of burials in the event of an unanticipated discovery of a burial, human bone, or suspected human bone. Therefore, impacts to human remains or to archaeological, historical, or paleontological resources from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., no impact). No mitigation is required.

- b. Have impacts that are individually limited, but cumulatively considerable?**  
("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Adopted ND Analysis: This project will not create any impacts that, when viewed in connection with existing land uses, other recently approved projects, and existing land use designations, would be considered cumulatively considerable. It is not expected that the proposed project would result in incremental effects. The analysis demonstrates that the proposed project cumulative impacts would be **less than significant**. No mitigation is required.

Modified Project Analysis: The City's General Plan identifies the site as SP #208. In accordance with the Industrial Land Use Table of SP #208,<sup>78</sup> the modified project would entail development of a [heavy manufacturing] hydrogen electrolysis and steam methane reformation facility on Parcels 1, 2, and 3 (APNs 0485-230-030 through -003) and the Stratos Fuel, Inc. corporate headquarters [professional office] campus on Parcel 4 (APN 0485-230-033). As stated previously, the modified project is consistent with the existing "heavy manufacturing" and "office, business, and professional" land use designations specified for the Industrial and 300-foot Residential Buffer Zone areas of SP #208.

The modified project entails development of industrial uses within an area of the City where such uses have been previously planned. As detailed in this Environmental Checklist, through compliance with the strict federal and State regulatory processes dictating development of hydrogen production facilities, the potential environmental effects associated with the construction and operation of the proposed modified project are appropriately within the scope of impacts identified in the City's adopted ND.

Because the modified project proposes a use that is consistent with the development previously anticipated in the SP #208 and because no new or more severe significant impact resulting from the construction or operation of the proposed modified uses was identified, no cumulatively

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<sup>78</sup> *Moreno Valley Industrial Area Plan (Specific Plan 208)*. Industrial Land Use Table, Pages III-3 through III-5. City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.



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significant impact would occur. Therefore, cumulatively considerable significant impacts from development of the modified project would be the **same or substantially similar** to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

**c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

Adopted ND Analysis: The project consists of a Master Plot Plan for a six building industrial park, a Plot Plan for a warehouse distribution building, and a parcel map. The project as designed and conditioned will not cause substantial adverse effects on human beings, either directly or indirectly for the reasons described in the ND. The Air Quality Analysis included an evaluation of potential significant impacts to global climate change that could result from the implementation of the project. As concluded in the evaluation, project related GHG emissions and their contribution to global climate change in the State are less than significant and less than cumulatively considerable because the project's impacts alone would not cause or significantly contribute to global climate change, and the project's contribution from construction emissions is short term and would cease after project construction is completed. The project would not result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals of AB32 or other State regulations. The analysis demonstrates that the proposed project cumulative impacts would be **less than significant**. No mitigation is required.

Modified Project Analysis: Since the proposed modified project is subject to SCAQMD permitting under Title V of the Clean Air Act as a stationary source, the SCAQMD has established a 10,000 MT *per year* CO<sub>2</sub>e emissions threshold for the modified project. As detailed in Table 3.F, the modified project would generate 529 MT/yr of GHG, less than the SCAQMD threshold. Additionally, this level of GHG emissions for the modified project is below the level of emissions for the previously approved land use (i.e., adopted ND) that was included in the land use assumptions of the City's EECAS and WRCOG Sub-Regional CAP.

The installation of equipment related to electrolysis, steam methane reformation, and cryogenic liquid hydrogen, or any other stationary equipment proposed as part of the modified project, would require a permit from the SCAQMD to operate in the State and would be subject to SCAQMD Regulation XIII, *New Source Review*. The permitting process would be separate from the general occupancy permits and entitlements issued by the City and would provide controls for emissions associated with any new stationary source equipment proposed under the modified project. Compliance with SCAQMD Regulation XIII would ensure that applicable emission standards are met.

Hydrogen is a colorless, odorless, tasteless, highly flammable gas with a wide flammability range and can cause fires and explosions if not handled properly.<sup>79</sup> Hazards associated with liquid hydrogen are fire, explosion, and exposure to asphyxiation and to extremely low temperatures for those handling liquid hydrogen. Hydrogen will be stored on-site in its natural form as a gas as well as a cryogenic liquid in containers designed per NPFA 2, ASME B31.12, and NFPA 55 requirements. Before being installed, all of the equipment skids will go through partial factory acceptance testing at a Hydrogenics USA facility.

As noted by the DOE, hydrogen (and another alternative fuel, propane) have long histories of being used as fuel and both fuels can be used safely if their physical, chemical, and thermal properties are understood and if appropriate codes, standards, and guidelines are followed.<sup>80</sup> The DEH established the Area Plan based on requirements of Chapter 6.95 of the California Health and Safety Code, Title 19 of the California Code of Regulations and the SARA Title III for emergency response to a release or threatened release of a hazardous material within the

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<sup>79</sup> *Hydrogen Station Permitting Handbook, Best Practices for Planning, Permitting, and Opening a Hydrogen Fueling Station.* California Governor's Office of Business and Economic Development. November 2015.

<sup>80</sup> *A Comparison of Hydrogen and Propane Fuels.* United States Department of Energy. April 2009.

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County. As part of the Area Plan, the RMP, as incorporated and modified by the CalARP Program, is designed to prevent harm to people and the surrounding environment by the use of various organized systems to identify and manage hazards. The goal of the CalARP Program is to make all facilities that handle regulated substances free of catastrophic incidents.

The CalARP program requires the project operator to prepare a Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to California Health and Safety Code Section 25503 and Section 25507 since the business handles a hazardous material or a mixture containing a hazardous material that has a quantity at any one time above the thresholds described in Section 25507(a) (1) through (6) (i.e., liquid hydrogen in excess of 10,000 pounds).

The project-specific Hazardous Materials Business Emergency Plan will be developed in accordance with the DOE's Hydrogen Safety Panel's *Safety Planning for Hydrogen and Fuel Cell Projects*, dated March 2016.<sup>81</sup> All on-site facilities would be constructed and operated in accordance with the National Fire Protection Association (NFPA) 2 Hydrogen Technologies Code. The NFPA 2 code provides fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas as well as cryogenic liquid form.

NFPA 2 requires a hazard analysis to be conducted on every hydrogen fueling system installation by a qualified engineer(s) with proven expertise in hydrogen fueling systems, installations, and hazard analysis techniques. As required by the California Energy Commission (CEC), the project applicant has contracted Intertek, a third party quality assurance and certification tests contractor, to monitor the engineering process. Intertek would provide safety testing to ensure the modified project complies with all Occupational Safety and Health Administration (OSHA), NFPA 2, IFC, and National Electrical Code (NEC) regulations, the site-specific Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material, as well as pursuant to California Health and Safety Code Section 25503 and Section 25507, and the CalARP Program. The third-party testing is incorporated into the site manuals and will be shared with fire & safety personnel of the City's Fire Department.

The project applicant will also be required to provide adequate access for emergency response apparatus and coordinate with the City Fire Department to establish preplanning strategies and ensure appropriate training and equipment for first responders in the event of an emergency. Pursuant to IFC 5003.9.1, the project applicant will invite the City Fire Department to tour the hydrogen facilities and focus attention on safety features and emergency shutoffs. Qualified project applicant staff will provide training to emergency response personnel to ensure proper understanding of appropriate response to a hydrogen incident. Additionally, the project applicant will maintain thermal imaging cameras and flame detectors on-site and ensure the City fire department has such equipment available for their use.

As established in this Environmental Checklist, the environmental effects associated with the development of the proposed modified project are consistent with those previously identified in the adopted ND. As appropriate, the project approved under the adopted ND has been conditioned through compliance with regulatory policy to reduce the significance of these impacts. The proposed modified project consists of development consistent with the established land use envisioned for the site. Compliance with all applicable local, state, and federal laws, including but not limited to SCAQMD Regulation XIII, Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, CalARP Program, California Health and Safety Code Section 25503 and 25507, DEH, PHMSA, FMCSA, DOT, HMTA, CEC, OSHA, NFPA 2, IFC, IFGC, and NEC would

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<sup>81</sup> *Safety Planning for Hydrogen and Fuel Cell Projects*. United States Department of Energy. March 2016. [https://h2tools.org/sites/default/files/Safety\\_Planning\\_for\\_Hydrogen\\_and\\_Fuel\\_Cell\\_Projects-March\\_2016.pdf](https://h2tools.org/sites/default/files/Safety_Planning_for_Hydrogen_and_Fuel_Cell_Projects-March_2016.pdf) (Accessed May 29, 2018).

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ensure environmental impacts to humans, either directly or indirectly, as a result of development of the modified project would be the same or substantially similar to those identified in the previously adopted ND (i.e., less than significant). No mitigation is required.

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**SECTION VI—LIST OF SOURCES**

1. *2011 Riverside County Congestion Management Program*. VRPA Technologies, Inc. December 14, 2011.
2. *2015 Urban Water Management Plan*. Eastern Municipal Water District. June 2016.
3. *A Comparison of Hydrogen and Propane Fuels*. United States Department of Energy. April 2009.
4. *Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California*. LSA Associates, Inc. May 29, 2018. (Appendix A).
5. *California Farmland Mapping and Monitoring Program*. The California Resources Agency. <https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=6586b7d276d84581adf921de7452f765> (Accessed May 23, 2018).
6. *Chapter 7 – Conservation Element*. City of Moreno Valley General Plan. July 11, 2006.
7. *City of Moreno Valley Municipal Code*. [https://qcode.us/codes/morenovalley/view.php?topic=11-11\\_80&showAll=1&frames=on](https://qcode.us/codes/morenovalley/view.php?topic=11-11_80&showAll=1&frames=on) (Accessed May 25, 2018).
8. *DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List)*. DTSC (California Department of Toxic Substances Control). 2018. [http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site\\_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+\(CORTESE\)](http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE)). (Accessed May 26, 2018.).
9. *EnviroStor Database*. Department of Toxic Substances Control. [https://www.envirostor.dtsc.ca.gov/public/map/?global\\_id=33000006](https://www.envirostor.dtsc.ca.gov/public/map/?global_id=33000006) (Accessed May 26, 2018).
10. *Final 2016 Air Quality Management Plan*. South Coast Air Quality Management District, March 2016.
11. *Final 2012 Air Quality Management Plan*, South Coast Air Quality Management District, February 2013.
12. *Flood Insurance Rate Map No. 06065C0765G*. Map Revised August 28, 2008. Federal Emergency Management Agency (FEMA). <https://msc.fema.gov/portal/search#searchresultsanchor> (Accessed May 25, 2018).
13. *Guidance for Localized Significance Thresholds*. South Coast Air Quality Management District. July 2008, Updated October 2009.
14. *Hydrogen Production: Natural Gas Reforming*. Office of Energy Efficiency & Renewable Energy. <https://www.energy.gov/eere/fuelcells/hydrogen-production-natural-gas-reforming> (Accessed May 24, 2018).
15. *Hydrogen Station Permitting Handbook, Best Practices for Planning, Permitting, and Opening a Hydrogen Fueling Station*. California Governor's Office of Business and Economic Development. November 2015.

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16. *Initial Study and Negative Declaration for the Master Area Plot Plan PA07-0035, Master Area Plot Plan PA07-0039, and Tentative Parcel Map No. 35822 (PA08-0021).* City of Moreno Valley. Adopted January 26, 2010.
17. *Land Use Map, Figure 22.* City of Moreno Valley General Plan. Print date: November 2, 2017.
18. *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan.* Map MA-1, Compatibility Map. Riverside County Airport Land Use Commission. November 13, 2014.
19. *Moreno Valley General Plan Final Program EIR.* Section 5.11 Aesthetics. City of Moreno Valley, July 2006.
20. *Moreno Valley Industrial Area Plan (Specific Plan 208).* City of Moreno Valley. Adopted June 27, 1989. Amended June 26, 2001. Amended March 12, 2002.
21. *National Hazardous Materials Route Registry.* Federal Motor Carrier Safety Administration. <https://www.fmcsa.dot.gov/regulations/hazardous-materials/national-hazardous-materials-route-registry>. (Accessed May 25, 2018).
22. *Noise Element.* City of Moreno Valley General Plan. [http://www.moreno-valley.ca.us/city\\_hall/general-plan/06gpfinal/gp/gp-tot.pdf](http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/gp/gp-tot.pdf) (Accessed May 25, 2018).
23. *Ordinance No. 663.* County of Riverside. <http://www.rivcocob.org/ords/600/663.10.pdf> (Accessed May 24, 2018).
24. *Ordinance No. 810.2.* County of Riverside. <http://www.rivcocob.org/ords/800/810.htm> (Accessed May 24, 2018).
25. *Quick Facts, City of Moreno Valley.* United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/morenovalleycitycalifornia/HSD310216#viewtop> (Accessed May 26, 2018).
26. *Riverside County Williamson Act FY 2015/2016.* Sheet 1 of 3. California Department of Conservation. [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside\\_w\\_15\\_16\\_WA.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside_w_15_16_WA.pdf) (Accessed May 23, 2018).
27. *Safety Element.* City of Moreno General Plan. July 2006.
28. *Safety Planning for Hydrogen and Fuel Cell Projects.* United States Department of Energy. March 2016. [https://h2tools.org/sites/default/files/Safety\\_Planning\\_for\\_Hydrogen\\_and\\_Fuel\\_Cell\\_Projects-March\\_2016.pdf](https://h2tools.org/sites/default/files/Safety_Planning_for_Hydrogen_and_Fuel_Cell_Projects-March_2016.pdf) (Accessed May 29, 2018).
29. *Section 4.11 Flood and Dam Inundation Hazards.* County of Riverside Environmental Impact Report No. 521. County of Riverside, February 2015.
30. *Section 5.5-Hazards.* Moreno Valley General Plan Final Program EIR. July 2006.
31. *Section 5.7, Hydrology/Water Quality.* Moreno Valley General Plan Final Program EIR. July 2006.
32. *Section 5.13 Public Services and Utilities.* Moreno Valley General Plan Final Program EIR. City of Moreno Valley, July 2006.
33. *Section 9.08.100-Lighting.* Moreno Valley Municipal Code. <http://qcode.us/codes/morenovalley/> (Accessed May 23, 2018).

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34. *Section 9.11.040, Off-Street Parking Requirements, Moreno Valley Municipal Code.* City of Moreno Valley, February 2017.
35. *Significant Earthquakes and Faults.* Southern California Earthquake Data Center, Division of Geological and Planetary Sciences, California Institute of Technology. <http://scedc.caltech.edu/significant/index.html> (Accessed May 27, 2018).
36. *Water Quality Management Plan – A Guidance Document for the Santa Ana Region of Riverside County,* Cities and County of Riverside, October 22, 2012.
37. *Western Riverside County Multiple Species Habitat Conservation Plan.* Riverside Conservation Authority MSHCP Information Application. <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=2ba3285ccc8841ed978d2d825e74c5fa> (Accessed May 24, 2018).
38. *Zoning Map* City of Moreno Valley. Revision date: November 2, 2017.

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**SECTION VII—APPENDICES**

Appendix A: Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California

## MEMORANDUM

**DATE:** May 29, 2018

**To:** Dionisios Glentis, Environmental Planner

**FROM:** Ron Brugger, Senior Air Quality Specialist

**SUBJECT:** Air Quality & Climate Change Modeling for the Stratos Fuel Hydrogen Plant in Moreno Valley, California

### INTRODUCTION

LSA conducted an air quality analysis of the six-building industrial project on 8.82 acres within the Moreno Valley Industrial Area [Specific] Plan (SP #208) Master Area Plot Plan PA07-0035 in the City of Moreno Valley in 2008. The environmental initial study was approved by the City in 2009. The industrial project was never built and a hydrogen electrolysis and steam methane reformation plant and associated office facility is now proposed for the site. A new air quality and greenhouse gas (GHG) analysis has been prepared to evaluate the project emissions that would occur with this new land use compared to the approved project emissions. Guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its *CEQA Air Quality Handbook* and associated updates were followed in this Air Quality and Greenhouse Gas Analysis.

### PROJECT DESCRIPTION

The facility would be located at the northerly tip of Moreno Valley's Business park/ Industrial Area. Adjacent to the facility to the north is undeveloped suburban residential R5 (pending economic development). Suburban residential properties are located east of the facility. South of the proposed facility is a 409,598 square foot warehouse commercial/industrial building. Within a 1-mile radius from the facility are two (2) schools; Rainbow elementary School and March Middle School.

### AIR QUALITY ANALYSIS

SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (SCAQMD 2017), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.



## Regional Thresholds for Construction and Operational Emissions

Table A lists the SCAQMD CEQA significance thresholds for construction and operational emissions. These thresholds are designed to protect the health and welfare of the populace with a reasonable margin of safety.

**Table A: Regional Thresholds for Construction and Operational Emissions**

	Pollutant Emissions Threshold (lbs/day)					
	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: South Coast Air Quality Management District. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf> (accessed May 2018).

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxides

PM<sub>10</sub> = particulate matter less than 10 microns in size

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compounds

Projects in the Basin with construction-related emissions or operational-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. The most recent version of CalEEMod (Version 2016.3.2) was used to calculate the construction and operational emissions associated with the project.

## Construction

The construction schedule and equipment was based on CalEEMod defaults for the land use and site size, with modifications based on the project plans. Table B lists the construction emissions. No pollutant emissions rate would exceed their respective SCAQMD threshold.

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008, recommending that all air quality analyses include an assessment of impacts on the air quality of nearby sensitive receptors. Table C shows the updated on-site localized emissions during construction. None of the construction emission rates would exceed the LSTs for the existing sensitive receptors within 25 meters to the east of the project site.

**Table B: Short-Term Regional Construction Emissions**

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	Fugitive PM <sub>10</sub>	Exhaust PM <sub>10</sub>	Fugitive PM <sub>2.5</sub>	Exhaust PM <sub>2.5</sub>
Site Preparation	2	24	13	<1	<1	<1	<1	<1
Grading	2	24	11	<1	3	1	1	1
Building Construction	3	23	19	<1	<1	1	<1	1
Paving	1	13	13	<1	<1	<1	<1	<1
Architectural Coating	56	2	2	<1	<1	<1	<1	<1
<b>Peak Daily</b>	<b>56</b>	<b>24</b>	<b>19</b>	<b>&lt;1</b>	<b>4</b>		<b>2</b>	
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>		<b>55</b>	
<b>Emissions Exceed Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>		<b>No</b>	

Source: Compiled by LSA (May 2018).

Note: Column totals may not add up due to rounding up of model results. PM10 and PM2.5 fugitive emissions are from the Mitigated results - the only "mitigation" applied in this modeling are required dust control measures per SCAQMD Rule 403.

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxides

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

PM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD = South Coast Air Quality Management District

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compounds

**Table C: Construction Localized Impacts Analysis**

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
On-Site Emissions	24	16	4	2
LST Thresholds	237	1,346	11	7
<b>Significant Emissions?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Compiled by LSA (May 2018).

Note: Source Receptor Area – Perris Valley, 4 acres, receptors at 25 meters. 4 acre thresholds derived by interpolating the 2- and 5-acre thresholds.

CO = carbon monoxide

NO<sub>x</sub> = nitrogen oxides

lbs/day = pounds per day

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

LST = local significance threshold

PM<sub>10</sub> = particulate matter less than 10 microns in size

Construction activities would also result in emissions of greenhouse gases (GHG). Using the same assumptions and air quality model as above, Table D lists the total GHG emissions during construction. Rather than examine the significance of these construction GHG emissions, SCAQMD has directed that the construction emissions be amortized over the lifetime of the project and then combined with the operational GHG emissions to determine significance. In the absence of project-specific information, SCAQMD suggests assuming a project lifetime of 30 years.

**Table D: Short-Term Regional Construction Greenhouse Gas Emissions**

Construction Phase	Peak Annual Emissions (MT/yr)			Total Emissions per Phase (MT CO <sub>2</sub> e)
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
2018				
Site Preparation	3	<1	0	4
Grading	6	<1	0	6
Building Construction	158	<1	0	159
2019				
Building Construction	188	<1	0	189
Paving	9	<1	0	9
Architectural Coating	2	<1	0	2
Total Construction Emissions				367
Total Construction Emissions Amortized over Project Lifetime (30 years)				12

Source: Compiled by LSA (May 2018).

CH<sub>4</sub> = methane

CO<sub>2</sub> = carbon dioxide

CO<sub>2</sub>e = carbon dioxide equivalent

MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent

MT/yr = metric tons per year

N<sub>2</sub>O = nitrous oxide

## Operations

In addition to short-term construction emissions, operation of the proposed modified project would also generate air emissions over the long-term. Table E lists the operational emissions from the proposed modified project compared to the previously approved project emissions. The previously approved analysis estimated that there would be 2,031 daily vehicle trips. The proposed modified project would have normal office staff and 5 to 25 daily hydrogen distribution truck trips up to 100 miles, with an average trip length of 40 miles, based on anticipated haul destinations. While the hydrogen electrolysis process uses a large amount of electricity, the facility's electricity will come from Stratos' in-state 140MW wind/solar 30-year power purchase agreement (PPA). The steam methane reformation (SMR) portion of the project would combust approximately 59.06 mmbtu/hr of natural gas to produce hydrogen, releasing criteria pollutants listed in Table E.

As shown in Table E, the proposed modified project would have substantially lower operational emissions from all source categories than the previously approved project. This is due to the much lower vehicle use (both cars and trucks) and that all electricity would be from wind and solar facilities.

**Table E: Regional Operational Emissions**

Source	Pollutant Emissions, lbs/day					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Previously Approved Land Use (From April 2008 Air Quality Report)</b>						
Stationary Sources	15	3.7	7.6	<1	0	0
Mobile Sources	26	51	240	<1	46	33
<b>Total Approved Emissions</b>	<b>41</b>	<b>54</b>	<b>248</b>	<b>&lt;1</b>	<b>46</b>	<b>33</b>
<b>Proposed Hydrogen Plant Scenario</b>						
Stationary (Area) Sources	3	<1	<1	0	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Mobile Sources	<1	2	4	<1	1	<1
Steam Methane Reformer	8	28	63	2	11	11
Truck-Loading Equipment	<1	3	2	<1	<1	<1
<b>Total Project Emissions</b>	<b>11</b>	<b>34</b>	<b>71</b>	<b>2</b>	<b>13</b>	<b>12</b>
<b>Net Emissions Change</b>	<b>-30</b>	<b>-20</b>	<b>-177</b>	<b>2</b>	<b>-33</b>	<b>-21</b>
<b>SCAQMD Thresholds</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>Emissions Exceed Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Compiled by LSA (May 2018).

Note: Column totals may not add up due to rounding up of model results.

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxides

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

PM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD = South Coast Air Quality Management District

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compounds

The only known project-related emissions of toxic air contaminants would be the diesel exhaust from the haul trucks and the combustion of natural gas in the SMR. The PM<sub>10</sub> emissions shown in Table E for mobile sources would include all truck exhaust emissions, which when combined with the SMR emissions would total approximately 12 pounds per day of PM<sub>10</sub>, well below the SCAQMD threshold of 150 pounds per day, which is designed to protect the health and welfare of the populace with a reasonable margin of safety. Thus, there would be a very low health risk to any of the nearby residents.

While the previously approved land use analysis did not include a GHG emissions analysis, running the CalEEMod model with the same parameters used for the 2008 report for the approved land uses produced the GHG emissions shown in Table F. The GHG emission estimates presented in Table F show the GHG emissions associated with the level of development envisioned by the proposed modified project at full capacity with the amortized short-term construction incorporated. Attachment A includes the CalEEMod worksheets for both the approved and modified project-related GHG emissions.

**Table F: Project Operational Greenhouse Gas Emissions**

Source	Pollutant Emissions (MT/yr)					
	Bio-CO <sub>2</sub>	NBio-CO <sub>2</sub>	Total CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>GHG Emissions Based on Previously Approved Land Use (From April 2008 Air Quality Report)</b>						
Area Sources	0	<1	<1	<1	0	<1
Energy Sources	0	372	372	<1	<1	373
Mobile Sources	0	3,888	3,888	<1	0	3,893
Truck-Loading Equipment	0	140	140	<1	0	141
Waste Sources	78	0	78	5	0	194
Water Usage	30	393	423	3	<1	523
<b>Total Approved Emissions</b>	<b>108</b>	<b>4,793</b>	<b>4,901</b>	<b>8</b>	<b>0</b>	<b>5,125</b>
<b>Proposed Hydrogen Plant Scenario</b>						
Construction Emissions Amortized Over 30 Years	0	12	12	<1	0	12
<b>Operational Emissions</b>						
Area Sources	0	<1	<1	<1	0	<1
Energy Sources	0	193	193	<1	<1	194
Mobile Sources	0	177	177	<1	0	177
Truck-Loading Equipment	0	35	35	<1	0	35
Waste Sources	30	0	30	2	0	73
Water Usage	9	0	9	<1	<1	37
<b>Total Project Emissions</b>	<b>38</b>	<b>417</b>	<b>455</b>	<b>2</b>	<b>0</b>	<b>529</b>
<b>Net GHG Emissions Change</b>	<b>-70</b>	<b>-4,376</b>	<b>-4,446</b>	<b>-6</b>	<b>0</b>	<b>-4,596</b>

Source: Compiled by LSA (April 2018).

Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

Bio-CO<sub>2</sub> = biologically generated CO<sub>2</sub>

MT/yr = metric tons per year

CH<sub>4</sub> = methane

N<sub>2</sub>O = nitrous oxide

CO<sub>2</sub> = carbon dioxide

NBio-CO<sub>2</sub> = Non-biologically generated CO<sub>2</sub>

CO<sub>2</sub>e = carbon dioxide equivalent

Table F shows that the proposed modified project would generate far lower GHG emissions than the approved project would have. The 2009 environmental initial study did not include GHG emissions; therefore it did not assess the level of significance. The SCAQMD has an applicable GHG emissions threshold of 10,000 metric tons per year (MT/yr) for industrial uses. Table F shows that the proposed modified project would generate 529 MT/yr of GHG, less than this SCAQMD threshold. Additionally, this level of GHG emissions for the modified project is below the level of emissions for the previously approved land use that was included in the Moreno Valley GHG Reduction Strategy and Western Riverside Council of Governments (WRCOG) Sub-Regional Climate Action Plan (CAP). Therefore, the proposed modified project does not conflict with these plans. As the modified project's GHG emissions would be less than significant and not conflict with any plan, the impacts from GHGs would be considered to be less than significant.

**ATTACHMENT A:**  
**CALEEMOD VERSION 2016.3.2 MODEL PRINTOUTS**

Moreno Valley PA07-0035 &amp; PA07-0039 - Riverside-South Coast County, Annual

## Moreno Valley PA07-0035 & PA07-0039 Riverside-South Coast County, Annual

### 1.0 Project Characteristics

#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	409.60	1000sqft	9.40	409,600.00	0
Parking Lot	4.00	Acre	4.00	174,240.00	0

#### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.4	<b>Precipitation Freq (Days)</b>	28
<b>Climate Zone</b>	10	<b>Operational Year</b>	2020		
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

#### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - No construction analyzed

Vehicle Trips - Trip rate used in 2008 analysis.

Operational Off-Road Equipment - Some forklifts for the warehouse operations

Fleet Mix - Fleet mix from 2008 analysis.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	7/4/2018	6/20/2018



tblFleetMix	HHD	0.07	0.03
tblFleetMix	LDA	0.54	0.34
tblFleetMix	LDT1	0.04	0.34
tblFleetMix	LDT2	0.18	0.06
tblFleetMix	LHD1	0.02	0.05
tblFleetMix	LHD2	5.3390e-003	0.05
tblFleetMix	MCY	4.6290e-003	0.02
tblFleetMix	MDV	0.12	0.06
tblFleetMix	MH	1.1200e-003	0.01
tblFleetMix	MHD	0.02	0.03
tblFleetMix	OBUS	1.3650e-003	2.0000e-003
tblFleetMix	SBUS	9.5900e-004	0.00
tblFleetMix	UBUS	1.2130e-003	2.0000e-003
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	8.00
tblVehicleTrips	ST_TR	1.68	4.96
tblVehicleTrips	SU_TR	1.68	4.96
tblVehicleTrips	WD_TR	1.68	4.96

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

[illegible]

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	371.7995	371.7995	0.0144	3.6100e-003	373.2346
Mobile	1.3144	6.7788	15.6321	0.0422	3.3638	0.0634	3.4272	0.9088	0.0599	0.9687	0.0000	3,887.6458	3,887.6458	0.2220	0.0000	3,893.1962

Offroad	0.1505	1.3562	1.2336	1.6000e-003		0.1010	0.1010		0.0930	0.0930	0.0000	140.3613	140.3613	0.0454	0.0000	141.4962
Waste						0.0000	0.0000		0.0000	0.0000	78.1556	0.0000	78.1556	4.6189	0.0000	193.6271
Water						0.0000	0.0000		0.0000	0.0000	30.0503	392.9715	423.0217	3.1027	0.0762	523.3065
<b>Total</b>	<b>3.1535</b>	<b>8.1757</b>	<b>16.9053</b>	<b>0.0441</b>	<b>3.3638</b>	<b>0.1675</b>	<b>3.5313</b>	<b>0.9088</b>	<b>0.1560</b>	<b>1.0648</b>	<b>108.2059</b>	<b>4,792.7883</b>	<b>4,900.9942</b>	<b>8.0034</b>	<b>0.0798</b>	<b>5,124.8716</b>

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	371.7995	371.7995	0.0144	3.6100e-003	373.2346
Mobile	1.3144	6.7788	15.6321	0.0422	3.3638	0.0634	3.4272	0.9088	0.0599	0.9687	0.0000	3,887.6458	3,887.6458	0.2220	0.0000	3,893.1962
Offroad	0.1505	1.3562	1.2336	1.6000e-003		0.1010	0.1010		0.0930	0.0930	0.0000	140.3613	140.3613	0.0454	0.0000	141.4962
Waste						0.0000	0.0000		0.0000	0.0000	78.1556	0.0000	78.1556	4.6189	0.0000	193.6271
Water						0.0000	0.0000		0.0000	0.0000	30.0503	392.9715	423.0217	3.1027	0.0762	523.3065
<b>Total</b>	<b>3.1535</b>	<b>8.1757</b>	<b>16.9053</b>	<b>0.0441</b>	<b>3.3638</b>	<b>0.1675</b>	<b>3.5313</b>	<b>0.9088</b>	<b>0.1560</b>	<b>1.0648</b>	<b>108.2059</b>	<b>4,792.7883</b>	<b>4,900.9942</b>	<b>8.0034</b>	<b>0.0798</b>	<b>5,124.8716</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
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1	Site Preparation	Site Preparation	6/21/2018	6/20/2018	5	0
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**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 4**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0**

## OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Site Preparation - 2018

### Unmitigated Construction On-Site

[illegible]

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3144	6.7788	15.6321	0.0422	3.3638	0.0634	3.4272	0.9088	0.0599	0.9687	0.0000	3,887.6458	3,887.6458	0.2220	0.0000	3,893.1962
Unmitigated	1.3144	6.7788	15.6321	0.0422	3.3638	0.0634	3.4272	0.9088	0.0599	0.9687	0.0000	3,887.6458	3,887.6458	0.2220	0.0000	3,893.1962

### 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	2,031.62	2,031.62	2031.62	8,706,931	8,706,931
Total	2,031.62	2,031.62	2,031.62	8,706,931	8,706,931

### 4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %
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Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Unrefrigerated Warehouse-No	0.341000	0.341000	0.062500	0.062500	0.045500	0.045500	0.034500	0.034500	0.002000	0.002000	0.015000	0.000000	0.014000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	327.4281	327.4281	0.0135	2.8000e-003	328.5995
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	327.4281	327.4281	0.0135	2.8000e-003	328.5995
NaturalGas Mitigated	4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3714	44.3714	8.5000e-004	8.1000e-004	44.6350
NaturalGas Unmitigated	4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3714	44.3714	8.5000e-004	8.1000e-004	44.6350

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	831488	4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3714	44.3714	8.5000e-004	8.1000e-004	44.6350
Total		4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3714	44.3714	8.5000e-004	8.1000e-004	44.6350

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	831488	4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3714	44.3714	8.5000e-004	8.1000e-004	44.6350
Total		4.4800e-003	0.0408	0.0342	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3714	44.3714	8.5000e-004	8.1000e-004	44.6350

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	60984	19.4308	8.0000e-004	1.7000e-004	19.5003
Unrefrigerated Warehouse-No	966656	307.9973	0.0127	2.6300e-003	309.0992
Total		327.4281	0.0135	2.8000e-003	328.5995

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	60984	19.4308	8.0000e-004	1.7000e-004	19.5003
Unrefrigerated Warehouse-No	966656	307.9973	0.0127	2.6300e-003	309.0992
Total		327.4281	0.0135	2.8000e-003	328.5995

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6841	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Unmitigated	1.6841	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-004	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	1.6841	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1923					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-004	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	1.6841	5.0000e-005	5.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			

Mitigated	423.0217	3.1027	0.0762	523.3065
Unmitigated	423.0217	3.1027	0.0762	523.3065

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	94.72 / 0	423.0217	3.1027	0.0762	523.3065
Total		423.0217	3.1027	0.0762	523.3065

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	94.72 / 0	423.0217	3.1027	0.0762	523.3065
Total		423.0217	3.1027	0.0762	523.3065

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	78.1556	4.6189	0.0000	193.6271
Unmitigated	78.1556	4.6189	0.0000	193.6271

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	385.02	78.1556	4.6189	0.0000	193.6271
Total		78.1556	4.6189	0.0000	193.6271

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	385.02	78.1556	4.6189	0.0000	193.6271
<b>Total</b>		<b>78.1556</b>	<b>4.6189</b>	<b>0.0000</b>	<b>193.6271</b>

## 9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	8	8.00	260	89	0.20	CNG

### UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.1505	1.3562	1.2336	1.6000e-003		0.1010	0.1010		0.0930	0.0930	0.0000	140.3613	140.3613	0.0454	0.0000	141.4962
<b>Total</b>	<b>0.1505</b>	<b>1.3562</b>	<b>1.2336</b>	<b>1.6000e-003</b>		<b>0.1010</b>	<b>0.1010</b>		<b>0.0930</b>	<b>0.0930</b>	<b>0.0000</b>	<b>140.3613</b>	<b>140.3613</b>	<b>0.0454</b>	<b>0.0000</b>	<b>141.4962</b>

## 10.0 Stationary Equipment

### Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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### Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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### User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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Moreno Valley PA07-0035 &amp; PA07-0039 - Riverside-South Coast County, Summer

**Moreno Valley PA07-0035 & PA07-0039**  
**Riverside-South Coast County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	409.60	1000sqft	9.40	409,600.00	0
Parking Lot	4.00	Acre	4.00	174,240.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.4	<b>Precipitation Freq (Days)</b>	28
<b>Climate Zone</b>	10	<b>Operational Year</b>	2020		
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - No construction analyzed

Vehicle Trips - Trip rate used in 2008 analysis.

Operational Off-Road Equipment - Some forklifts for the warehouse operations

Fleet Mix - Fleet mix from 2008 analysis.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	7/4/2018	6/20/2018



Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	2.5782	0.0000	0.0000	2.3719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	2.5782	0.0000	0.0000	2.3719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

2.2 Overall Operational  
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Energy	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Mobile	8.5139	35.7009	95.4483	0.2447	18.7857	0.3481	19.1337	5.0675	0.3293	5.3969		24,812.5763	24,812.5763	1.3763		24,846.9842
Offroad	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910
Total	18.9256	46.3565	105.1677	0.2584	18.7857	1.1424	19.9280	5.0675	1.0614	6.1290		26,270.8405	26,270.8405	1.7666	4.9100e-003	26,316.4702

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Energy	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Mobile	8.5139	35.7009	95.4483	0.2447	18.7857	0.3481	19.1337	5.0675	0.3293	5.3969		24,812.5763	24,812.5763	1.3763		24,846.9842
Offroad	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910
Total	18.9256	46.3565	105.1677	0.2584	18.7857	1.1424	19.9280	5.0675	1.0614	6.1290		26,270.8405	26,270.8405	1.7666	4.9100e-003	26,316.4702

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/21/2018	6/20/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment



Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**4.0 Operational Detail - Mobile**

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## 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.5139	35.7009	95.4483	0.2447	18.7857	0.3481	19.1337	5.0675	0.3293	5.3969		24,812.57 63	24,812.57 63	1.3763		24,846.98 42
Unmitigated	8.5139	35.7009	95.4483	0.2447	18.7857	0.3481	19.1337	5.0675	0.3293	5.3969		24,812.57 63	24,812.57 63	1.3763		24,846.98 42

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	2,031.62	2,031.62	2031.62	8,706,931	8,706,931
Total	2,031.62	2,031.62	2,031.62	8,706,931	8,706,931

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Unrefrigerated Warehouse-No Rail	0.341000	0.341000	0.062500	0.062500	0.045500	0.045500	0.034500	0.034500	0.002000	0.002000	0.015000	0.000000	0.014000

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## 5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
NaturalGas Unmitigated	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	2278.05	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Total		0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984

Mitigated



	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	2.27805	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Total		0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Unmitigated	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	8.1718					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-003	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Total	9.2294	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.1718					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-003	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Total	9.2294	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	8	8.00	260	89	0.20	CNG

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910
Total	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Moreno Valley PA07-0035 &amp; PA07-0039 - Riverside-South Coast County, Winter

**Moreno Valley PA07-0035 & PA07-0039**  
**Riverside-South Coast County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	409.60	1000sqft	9.40	409,600.00	0
Parking Lot	4.00	Acre	4.00	174,240.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.4	<b>Precipitation Freq (Days)</b>	28
<b>Climate Zone</b>	10	<b>Operational Year</b>	2020		
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - No construction analyzed

Vehicle Trips - Trip rate used in 2008 analysis.

Operational Off-Road Equipment - Some forklifts for the warehouse operations

Fleet Mix - Fleet mix from 2008 analysis.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	7/4/2018	6/20/2018

tblFleetMix	HHD	0.07	0.03
tblFleetMix	LDA	0.54	0.34
tblFleetMix	LDT1	0.04	0.34
tblFleetMix	LDT2	0.18	0.06
tblFleetMix	LHD1	0.02	0.05
tblFleetMix	LHD2	5.3390e-003	0.05
tblFleetMix	MCY	4.6290e-003	0.02
tblFleetMix	MDV	0.12	0.06
tblFleetMix	MH	1.1200e-003	0.01
tblFleetMix	MHD	0.02	0.03
tblFleetMix	OBUS	1.3650e-003	2.0000e-003
tblFleetMix	SBUS	9.5900e-004	0.00
tblFleetMix	UBUS	1.2130e-003	2.0000e-003
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	8.00
tblVehicleTrips	ST_TR	1.68	4.96
tblVehicleTrips	SU_TR	1.68	4.96
tblVehicleTrips	WD_TR	1.68	4.96

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

[illegible]

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	2.5782	0.0000	0.0000	2.3719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	2.5782	0.0000	0.0000	2.3719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

2.2 Overall Operational  
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Energy	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Mobile	7.2379	36.7163	83.0391	0.2280	18.7857	0.3491	19.1347	5.0675	0.3302	5.3978		23,148.0035	23,148.0035	1.3501		23,181.7562
Offroad	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910
Total	17.6497	47.3719	92.7585	0.2416	18.7857	1.1434	19.9290	5.0675	1.0624	6.1299		24,606.2677	24,606.2677	1.7404	4.9100e-003	24,651.2422

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Energy	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Mobile	7.2379	36.7163	83.0391	0.2280	18.7857	0.3491	19.1347	5.0675	0.3302	5.3978		23,148.0035	23,148.0035	1.3501		23,181.7562
Offroad	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910
Total	17.6497	47.3719	92.7585	0.2416	18.7857	1.1434	19.9290	5.0675	1.0624	6.1299		24,606.2677	24,606.2677	1.7404	4.9100e-003	24,651.2422

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/21/2018	6/20/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment





Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**4.0 Operational Detail - Mobile**

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## 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.2379	36.7163	83.0391	0.2280	18.7857	0.3491	19.1347	5.0675	0.3302	5.3978		23,148.00 35	23,148.00 35	1.3501		23,181.75 62
Unmitigated	7.2379	36.7163	83.0391	0.2280	18.7857	0.3491	19.1347	5.0675	0.3302	5.3978		23,148.00 35	23,148.00 35	1.3501		23,181.75 62

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	2,031.62	2,031.62	2031.62	8,706,931	8,706,931
Total	2,031.62	2,031.62	2,031.62	8,706,931	8,706,931

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Unrefrigerated Warehouse-No Rail	0.341000	0.341000	0.062500	0.062500	0.045500	0.045500	0.034500	0.034500	0.002000	0.002000	0.015000	0.000000	0.014000

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## 5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
NaturalGas Unmitigated	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	2278.05	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Total		0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	2.27805	0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984
Total		0.0246	0.2233	0.1876	1.3400e-003		0.0170	0.0170		0.0170	0.0170		268.0058	268.0058	5.1400e-003	4.9100e-003	269.5984

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Unmitigated	9.2293	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	8.1718					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-003	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Total	9.2294	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.1718					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-003	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966
Total	9.2294	3.9000e-004	0.0425	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0905	0.0905	2.4000e-004		0.0966

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	8	8.00	260	89	0.20	CNG

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910
Total	1.1579	10.4319	9.4893	0.0123		0.7772	0.7772		0.7150	0.7150		1,190.1679	1,190.1679	0.3849		1,199.7910

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

## Stratos Fuel Hydrogen Plant - Riverside-South Coast County, Annual

## Stratos Fuel Hydrogen Plant Riverside-South Coast County, Annual

### 1.0 Project Characteristics

#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	10.00	1000sqft	0.23	10,000.00	0
Manufacturing	109.99	1000sqft	2.52	109,989.00	0
Parking Lot	10.00	1000sqft	0.23	10,000.00	0

#### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2020
Utility Company	User Defined				
CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

#### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Facility's electricity will come from Stratos' instate 140MW wind/solar 30-year power purchase agreement (PPA)

Land Use -

Construction Phase -

Architectural Coating - Assume coatings are compliant with SCAQMD Rule 1113

Vehicle Trips - Plant would have 5-25 trucks hauling hydrogen per week day, normal office commuters. There would be minimal weekend operations.

Area Coating - Assume coatings are compliant with SCAQMD Rule 1113

Energy Use - facility's electricity will come from Stratos' instate 140MW wind/solar 30-year power purchase agreement (PPA)

Sequestration - Estimated number of trees based on project description.

Construction Off-road Equipment Mitigation - Required dust control measures to comply with SCAQMD Rule 403.

Operational Off-Road Equipment - Assume 2 forklifts for truck loading and unloading.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	3.66	0.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	T24E	3.07	0.00
tblEnergyUse	T24E	2.20	0.00
tblLandUse	LandUseSquareFeet	109,990.00	109,989.00
tblLandUse	LotAcreage	2.53	2.52
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblSequestration	NumberOfNewTrees	0.00	10.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	ST_TR	1.49	0.02
tblVehicleTrips	SU_TR	0.62	0.02
tblVehicleTrips	WD_TR	3.82	0.22

## 2.0 Emissions Summary

### 2.1 Overall Construction Unmitigated Construction



	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1738	1.2845	0.9788	1.9200e-003	0.0588	0.0691	0.1279	0.0203	0.0660	0.0863	0.0000	167.7212	167.7212	0.0287	0.0000	168.4380
2019	0.4611	1.3642	1.1406	2.2900e-003	0.0450	0.0710	0.1160	0.0121	0.0680	0.0801	0.0000	198.2514	198.2514	0.0323	0.0000	199.0585
Maximum	0.4611	1.3642	1.1406	2.2900e-003	0.0588	0.0710	0.1279	0.0203	0.0680	0.0863	0.0000	198.2514	198.2514	0.0323	0.0000	199.0585

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1738	1.2845	0.9788	1.9200e-003	0.0454	0.0691	0.1144	0.0140	0.0660	0.0800	0.0000	167.7210	167.7210	0.0287	0.0000	168.4378
2019	0.4611	1.3642	1.1405	2.2900e-003	0.0450	0.0710	0.1160	0.0121	0.0680	0.0801	0.0000	198.2513	198.2513	0.0323	0.0000	199.0583
Maximum	0.4611	1.3642	1.1405	2.2900e-003	0.0454	0.0710	0.1160	0.0140	0.0680	0.0801	0.0000	198.2513	198.2513	0.0323	0.0000	199.0583

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	12.95	0.00	5.51	19.50	0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2018	10-31-2018	0.8778	0.8778
2	11-1-2018	1-31-2019	0.8537	0.8537
3	2-1-2019	4-30-2019	0.7758	0.7758
4	5-1-2019	7-31-2019	0.7782	0.7782
		Highest	0.8778	0.8778

## 2.2 Overall Operational

### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4623	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003
Energy	0.0195	0.1769	0.1486	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	192.5496	192.5496	3.6900e-003	3.5300e-003	193.6938
Mobile	0.0378	0.3329	0.5225	2.1900e-003	0.1654	2.0900e-003	0.1675	0.0443	1.9700e-003	0.0463	0.0000	202.3451	202.3451	9.7300e-003	0.0000	202.5885
Offroad	0.0374	0.3374	0.3069	4.0000e-004		0.0251	0.0251		0.0231	0.0231	0.0000	34.9157	34.9157	0.0113	0.0000	35.1981
Waste						0.0000	0.0000		0.0000	0.0000	29.5738	0.0000	29.5738	1.7478	0.0000	73.2677
Water						0.0000	0.0000		0.0000	0.0000	8.6333	0.0000	8.6333	0.8867	0.0209	37.0406
<b>Total</b>	<b>0.5569</b>	<b>0.8471</b>	<b>0.9796</b>	<b>3.6500e-003</b>	<b>0.1654</b>	<b>0.0407</b>	<b>0.2061</b>	<b>0.0443</b>	<b>0.0385</b>	<b>0.0829</b>	<b>38.2070</b>	<b>429.8137</b>	<b>468.0207</b>	<b>2.6592</b>	<b>0.0245</b>	<b>541.7921</b>

### Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4623	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003
Energy	0.0195	0.1769	0.1486	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	192.5496	192.5496	3.6900e-003	3.5300e-003	193.6938
Mobile	0.0378	0.3329	0.5225	2.1900e-003	0.1654	2.0900e-003	0.1675	0.0443	1.9700e-003	0.0463	0.0000	202.3451	202.3451	9.7300e-003	0.0000	202.5885
Offroad	0.0374	0.3374	0.3069	4.0000e-004		0.0251	0.0251		0.0231	0.0231	0.0000	34.9157	34.9157	0.0113	0.0000	35.1981
Waste						0.0000	0.0000		0.0000	0.0000	29.5738	0.0000	29.5738	1.7478	0.0000	73.2677

Water						0.0000	0.0000		0.0000	0.0000	8.6333	0.0000	8.6333	0.8867	0.0209	37.0406
<b>Total</b>	<b>0.5569</b>	<b>0.8471</b>	<b>0.9796</b>	<b>3.6500e-003</b>	<b>0.1654</b>	<b>0.0407</b>	<b>0.2061</b>	<b>0.0443</b>	<b>0.0385</b>	<b>0.0829</b>	<b>38.2070</b>	<b>429.8137</b>	<b>468.0207</b>	<b>2.6592</b>	<b>0.0245</b>	<b>541.7921</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### 2.3 Vegetation

#### Vegetation

	CO2e
Category	MT
New Trees	7.0800
<b>Total</b>	<b>7.0800</b>

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/1/2018	8/3/2018	5	3	
2	Grading	Grading	8/4/2018	8/13/2018	5	6	
3	Building Construction	Building Construction	8/14/2018	6/17/2019	5	220	
4	Paving	Paving	6/18/2019	7/1/2019	5	10	
5	Architectural Coating	Architectural Coating	7/2/2019	7/15/2019	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

**Acres of Paving: 0.23**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 179,984; Non-Residential Outdoor: 59,995; Striped Parking**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	54.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

### 3.2 Site Preparation - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8500e-003	0.0354	0.0191	4.0000e-005		1.4300e-003	1.4300e-003		1.3200e-003	1.3200e-003	0.0000	3.3590	3.3590	1.0500e-003	0.0000	3.3851
Total	2.8500e-003	0.0354	0.0191	4.0000e-005	2.3900e-003	1.4300e-003	3.8200e-003	2.6000e-004	1.3200e-003	1.5800e-003	0.0000	3.3590	3.3590	1.0500e-003	0.0000	3.3851

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.1000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1175	0.1175	0.0000	0.0000	0.1176
Total	7.0000e-005	5.0000e-005	5.1000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1175	0.1175	0.0000	0.0000	0.1176

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.3000e-004	0.0000	9.3000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8500e-003	0.0354	0.0191	4.0000e-005		1.4300e-003	1.4300e-003		1.3200e-003	1.3200e-003	0.0000	3.3590	3.3590	1.0500e-003	0.0000	3.3851
<b>Total</b>	<b>2.8500e-003</b>	<b>0.0354</b>	<b>0.0191</b>	<b>4.0000e-005</b>	<b>9.3000e-004</b>	<b>1.4300e-003</b>	<b>2.3600e-003</b>	<b>1.0000e-004</b>	<b>1.3200e-003</b>	<b>1.4200e-003</b>	<b>0.0000</b>	<b>3.3590</b>	<b>3.3590</b>	<b>1.0500e-003</b>	<b>0.0000</b>	<b>3.3851</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.1000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1175	0.1175	0.0000	0.0000	0.1176
<b>Total</b>	<b>7.0000e-005</b>	<b>5.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.1175</b>	<b>0.1175</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.1176</b>

## 3.3 Grading - 2018

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	6.4500e-003	0.0729	0.0311	6.0000e-005		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	5.6539	5.6539	1.7600e-003	0.0000	5.6979
<b>Total</b>	<b>6.4500e-003</b>	<b>0.0729</b>	<b>0.0311</b>	<b>6.0000e-005</b>	<b>0.0197</b>	<b>3.5000e-003</b>	<b>0.0232</b>	<b>0.0101</b>	<b>3.2200e-003</b>	<b>0.0133</b>	<b>0.0000</b>	<b>5.6539</b>	<b>5.6539</b>	<b>1.7600e-003</b>	<b>0.0000</b>	<b>5.6979</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.2700e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2939	0.2939	1.0000e-005	0.0000	0.2941
<b>Total</b>	<b>1.6000e-004</b>	<b>1.2000e-004</b>	<b>1.2700e-003</b>	<b>0.0000</b>	<b>3.3000e-004</b>	<b>0.0000</b>	<b>3.3000e-004</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.2939</b>	<b>0.2939</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2941</b>

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.6700e-003	0.0000	7.6700e-003	3.9400e-003	0.0000	3.9400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4500e-003	0.0729	0.0311	6.0000e-005		3.5000e-003	3.5000e-003		3.2200e-003	3.2200e-003	0.0000	5.6539	5.6539	1.7600e-003	0.0000	5.6979
<b>Total</b>	<b>6.4500e-003</b>	<b>0.0729</b>	<b>0.0311</b>	<b>6.0000e-005</b>	<b>7.6700e-003</b>	<b>3.5000e-003</b>	<b>0.0112</b>	<b>3.9400e-003</b>	<b>3.2200e-003</b>	<b>7.1600e-003</b>	<b>0.0000</b>	<b>5.6539</b>	<b>5.6539</b>	<b>1.7600e-003</b>	<b>0.0000</b>	<b>5.6979</b>

Mitigated Construction Off-Site





Vendor	3.9300e-003	0.1295	0.0265	2.7000e-004	6.6300e-003	1.0800e-003	7.7100e-003	1.9100e-003	1.0300e-003	2.9400e-003	0.0000	26.1726	26.1726	2.3000e-003	0.0000	26.2301
Worker	0.0147	0.0111	0.1143	2.9000e-004	0.0297	1.9000e-004	0.0299	7.8800e-003	1.7000e-004	8.0500e-003	0.0000	26.4475	26.4475	7.9000e-004	0.0000	26.4672
<b>Total</b>	<b>0.0186</b>	<b>0.1406</b>	<b>0.1408</b>	<b>5.6000e-004</b>	<b>0.0363</b>	<b>1.2700e-003</b>	<b>0.0376</b>	<b>9.7900e-003</b>	<b>1.2000e-003</b>	<b>0.0110</b>	<b>0.0000</b>	<b>52.6200</b>	<b>52.6200</b>	<b>3.0900e-003</b>	<b>0.0000</b>	<b>52.6972</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1456	1.0354	0.7859	1.2500e-003		0.0629	0.0629		0.0603	0.0603	0.0000	105.6767	105.6767	0.0228	0.0000	106.2459
<b>Total</b>	<b>0.1456</b>	<b>1.0354</b>	<b>0.7859</b>	<b>1.2500e-003</b>		<b>0.0629</b>	<b>0.0629</b>		<b>0.0603</b>	<b>0.0603</b>	<b>0.0000</b>	<b>105.6767</b>	<b>105.6767</b>	<b>0.0228</b>	<b>0.0000</b>	<b>106.2459</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9300e-003	0.1295	0.0265	2.7000e-004	6.6300e-003	1.0800e-003	7.7100e-003	1.9100e-003	1.0300e-003	2.9400e-003	0.0000	26.1726	26.1726	2.3000e-003	0.0000	26.2301
Worker	0.0147	0.0111	0.1143	2.9000e-004	0.0297	1.9000e-004	0.0299	7.8800e-003	1.7000e-004	8.0500e-003	0.0000	26.4475	26.4475	7.9000e-004	0.0000	26.4672
<b>Total</b>	<b>0.0186</b>	<b>0.1406</b>	<b>0.1408</b>	<b>5.6000e-004</b>	<b>0.0363</b>	<b>1.2700e-003</b>	<b>0.0376</b>	<b>9.7900e-003</b>	<b>1.2000e-003</b>	<b>0.0110</b>	<b>0.0000</b>	<b>52.6200</b>	<b>52.6200</b>	<b>3.0900e-003</b>	<b>0.0000</b>	<b>52.6972</b>

## 3.4 Building Construction - 2019

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1535	1.1346	0.9153	1.5000e-003		0.0654	0.0654		0.0627	0.0627	0.0000	125.8526	125.8526	0.0262	0.0000	126.5071
<b>Total</b>	<b>0.1535</b>	<b>1.1346</b>	<b>0.9153</b>	<b>1.5000e-003</b>		<b>0.0654</b>	<b>0.0654</b>		<b>0.0627</b>	<b>0.0627</b>	<b>0.0000</b>	<b>125.8526</b>	<b>125.8526</b>	<b>0.0262</b>	<b>0.0000</b>	<b>126.5071</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2700e-003	0.1454	0.0289	3.3000e-004	7.9600e-003	1.1000e-003	9.0500e-003	2.3000e-003	1.0500e-003	3.3400e-003	0.0000	31.1996	31.1996	2.6600e-003	0.0000	31.2661
Worker	0.0161	0.0117	0.1229	3.4000e-004	0.0356	2.2000e-004	0.0358	9.4600e-003	2.1000e-004	9.6600e-003	0.0000	30.7673	30.7673	8.4000e-004	0.0000	30.7884
<b>Total</b>	<b>0.0204</b>	<b>0.1571</b>	<b>0.1519</b>	<b>6.7000e-004</b>	<b>0.0436</b>	<b>1.3200e-003</b>	<b>0.0449</b>	<b>0.0118</b>	<b>1.2600e-003</b>	<b>0.0130</b>	<b>0.0000</b>	<b>61.9669</b>	<b>61.9669</b>	<b>3.5000e-003</b>	<b>0.0000</b>	<b>62.0544</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1535	1.1346	0.9153	1.5000e-003		0.0654	0.0654		0.0627	0.0627	0.0000	125.8524	125.8524	0.0262	0.0000	126.5070

Total	0.1535	1.1346	0.9153	1.5000e-003		0.0654	0.0654		0.0627	0.0627	0.0000	125.8524	125.8524	0.0262	0.0000	126.5070
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### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2700e-003	0.1454	0.0289	3.3000e-004	7.9600e-003	1.1000e-003	9.0500e-003	2.3000e-003	1.0500e-003	3.3400e-003	0.0000	31.1996	31.1996	2.6600e-003	0.0000	31.2661
Worker	0.0161	0.0117	0.1229	3.4000e-004	0.0356	2.2000e-004	0.0358	9.4600e-003	2.1000e-004	9.6600e-003	0.0000	30.7673	30.7673	8.4000e-004	0.0000	30.7884
Total	0.0204	0.1571	0.1519	6.7000e-004	0.0436	1.3200e-003	0.0449	0.0118	1.2600e-003	0.0130	0.0000	61.9669	61.9669	3.5000e-003	0.0000	62.0544

### 3.5 Paving - 2019

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.5300e-003	0.0628	0.0593	9.0000e-005		3.6500e-003	3.6500e-003		3.3600e-003	3.3600e-003	0.0000	7.9208	7.9208	2.4600e-003	0.0000	7.9823

#### Unmitigated Construction Off-Site



Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	2.8500e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.7122	0.7122	2.0000e-005	0.0000	0.7127
<b>Total</b>	<b>3.7000e-004</b>	<b>2.7000e-004</b>	<b>2.8500e-003</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>1.0000e-005</b>	<b>8.3000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7122</b>	<b>0.7122</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.7127</b>

### 3.6 Architectural Coating - 2019

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2788					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
<b>Total</b>	<b>0.2801</b>	<b>9.1800e-003</b>	<b>9.2100e-003</b>	<b>1.0000e-005</b>		<b>6.4000e-004</b>	<b>6.4000e-004</b>		<b>6.4000e-004</b>	<b>6.4000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.2793</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.0000e-004	2.0900e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5223	0.5223	1.0000e-005	0.0000	0.5226
<b>Total</b>	<b>2.7000e-004</b>	<b>2.0000e-004</b>	<b>2.0900e-003</b>	<b>1.0000e-005</b>	<b>6.0000e-004</b>	<b>0.0000</b>	<b>6.1000e-004</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>0.5223</b>	<b>0.5223</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.5226</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2788					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
<b>Total</b>	<b>0.2801</b>	<b>9.1800e-003</b>	<b>9.2100e-003</b>	<b>1.0000e-005</b>		<b>6.4000e-004</b>	<b>6.4000e-004</b>		<b>6.4000e-004</b>	<b>6.4000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.2793</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.0000e-004	2.0900e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5223	0.5223	1.0000e-005	0.0000	0.5226
<b>Total</b>	<b>2.7000e-004</b>	<b>2.0000e-004</b>	<b>2.0900e-003</b>	<b>1.0000e-005</b>	<b>6.0000e-004</b>	<b>0.0000</b>	<b>6.1000e-004</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>0.5223</b>	<b>0.5223</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.5226</b>

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0378	0.3329	0.5225	2.1900e-003	0.1654	2.0900e-003	0.1675	0.0443	1.9700e-003	0.0463	0.0000	202.3451	202.3451	9.7300e-003	0.0000	202.5885
Unmitigated	0.0378	0.3329	0.5225	2.1900e-003	0.1654	2.0900e-003	0.1675	0.0443	1.9700e-003	0.0463	0.0000	202.3451	202.3451	9.7300e-003	0.0000	202.5885

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	110.30	24.60	10.50	269,958	269,958
Manufacturing	24.20	2.20	2.20	163,264	163,264
Parking Lot	0.00	0.00	0.00		
Total	134.50	26.80	12.70	433,222	433,222

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Manufacturing	40.00	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Manufacturing	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

## 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0195	0.1769	0.1486	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	192.5496	192.5496	3.6900e-003	3.5300e-003	193.6938
NaturalGas Unmitigated	0.0195	0.1769	0.1486	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	192.5496	192.5496	3.6900e-003	3.5300e-003	193.6938

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	34700	1.9000e-004	1.7000e-003	1.4300e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8517	1.8517	4.0000e-005	3.0000e-005	1.8627
Manufacturing	3.57354e+006	0.0193	0.1752	0.1472	1.0500e-003		0.0133	0.0133		0.0133	0.0133	0.0000	190.6978	190.6978	3.6600e-003	3.5000e-003	191.8311
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0195	0.1769	0.1486	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	192.5496	192.5496	3.7000e-003	3.5300e-003	193.6938

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	34700	1.9000e-004	1.7000e-003	1.4300e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8517	1.8517	4.0000e-005	3.0000e-005	1.8627
Manufacturing	3.57354e+006	0.0193	0.1752	0.1472	1.0500e-003		0.0133	0.0133		0.0133	0.0133	0.0000	190.6978	190.6978	3.6600e-003	3.5000e-003	191.8311
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0195	0.1769	0.1486	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	192.5496	192.5496	3.7000e-003	3.5300e-003	193.6938

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000

Total		0.0000	0.0000	0.0000	0.0000
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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4623	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003
Unmitigated	0.4623	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0279					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4342					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003
Total	0.4623	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0279					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4342					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003
Total	0.4623	2.0000e-005	1.6700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.2300e-003	3.2300e-003	1.0000e-005	0.0000	3.4400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.6333	0.8867	0.0209	37.0406
Unmitigated	8.6333	0.8867	0.0209	37.0406

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.77734 / 1.08934	0.5639	0.0579	1.3700e-003	2.4192
Manufacturing	25.4352 / 0	8.0694	0.8288	0.0196	34.6214
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.6333</b>	<b>0.8867</b>	<b>0.0209</b>	<b>37.0406</b>

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.77734 / 1.08934	0.5639	0.0579	1.3700e-003	2.4192
Manufacturing	25.4352 / 0	8.0694	0.8288	0.0196	34.6214
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.6333</b>	<b>0.8867</b>	<b>0.0209</b>	<b>37.0406</b>

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
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	MT/yr			
Mitigated	29.5738	1.7478	0.0000	73.2677
Unmitigated	29.5738	1.7478	0.0000	73.2677

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	9.3	1.8878	0.1116	0.0000	4.6770
Manufacturing	136.39	27.6859	1.6362	0.0000	68.5907
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		29.5738	1.7478	0.0000	73.2677

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	9.3	1.8878	0.1116	0.0000	4.6770
Manufacturing	136.39	27.6859	1.6362	0.0000	68.5907
Parking Lot	0	0.0000	0.0000	0.0000	0.0000

Total		29.5738	1.7478	0.0000	73.2677
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### 9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	2	8.00	260	89	0.20	Electrical

#### UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.0374	0.3374	0.3069	4.0000e-004		0.0251	0.0251		0.0231	0.0231	0.0000	34.9157	34.9157	0.0113	0.0000	35.1981
Total	0.0374	0.3374	0.3069	4.0000e-004		0.0251	0.0251		0.0231	0.0231	0.0000	34.9157	34.9157	0.0113	0.0000	35.1981

### 10.0 Stationary Equipment

#### Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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#### Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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#### User Defined Equipment

Equipment Type	Number
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### 11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	7.0800	0.0000	0.0000	7.0800

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	10	7.0800	0.0000	0.0000	7.0800
Total		7.0800	0.0000	0.0000	7.0800

## Stratos Fuel Hydrogen Plant - Riverside-South Coast County, Summer

## Stratos Fuel Hydrogen Plant

### Riverside-South Coast County, Summer

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	10.00	1000sqft	0.23	10,000.00	0
Manufacturing	109.99	1000sqft	2.52	109,989.00	0
Parking Lot	10.00	1000sqft	0.23	10,000.00	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2020
Utility Company	User Defined				
CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Facility's electricity will come from Stratos' instate 140MW wind/solar 30-year power purchase agreement (PPA)

Land Use -

Construction Phase -

Architectural Coating - Assume coatings are compliant with SCAQMD Rule 1113

Vehicle Trips - Plant would have 5-25 trucks hauling hydrogen per week day, normal office commuters. There would be minimal weekend operations.

Area Coating - Assume coatings are compliant with SCAQMD Rule 1113

Energy Use - facility's electricity will come from Stratos' instate 140MW wind/solar 30-year power purchase agreement (PPA)

Sequestration - Estimated number of trees based on project description.



Construction Off-road Equipment Mitigation - Required dust control measures to comply with SCAQMD Rule 403.

Operational Off-Road Equipment - Assume 2 forklifts for truck loading and unloading.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	3.66	0.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	T24E	3.07	0.00
tblEnergyUse	T24E	2.20	0.00
tblLandUse	LandUseSquareFeet	109,990.00	109,989.00
tblLandUse	LotAcreage	2.53	2.52
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblSequestration	NumberOfNewTrees	0.00	10.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	ST_TR	1.49	0.02
tblVehicleTrips	SU_TR	0.62	0.02
tblVehicleTrips	WD_TR	3.82	0.22

## 2.0 Emissions Summary

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### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.3152	24.3278	18.8826	0.0369	6.6641	1.2826	7.8331	3.3971	1.2290	4.4726	0.0000	3,549.5190	3,549.5190	0.7713	0.0000	3,563.7588
2019	56.0812	21.4832	18.1015	0.0367	0.7381	1.1120	1.8501	0.1988	1.0657	1.2645	0.0000	3,508.7430	3,508.7430	0.5465	0.0000	3,522.3628
Maximum	56.0812	24.3278	18.8826	0.0369	6.6641	1.2826	7.8331	3.3971	1.2290	4.4726	0.0000	3,549.5190	3,549.5190	0.7713	0.0000	3,563.7588

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.3152	24.3278	18.8826	0.0369	2.6672	1.2826	3.8362	1.3430	1.2290	2.4184	0.0000	3,549.5190	3,549.5190	0.7713	0.0000	3,563.7588
2019	56.0812	21.4832	18.1015	0.0367	0.7381	1.1120	1.8501	0.1988	1.0657	1.2645	0.0000	3,508.7430	3,508.7430	0.5465	0.0000	3,522.3628
Maximum	56.0812	24.3278	18.8826	0.0369	2.6672	1.2826	3.8362	1.3430	1.2290	2.4184	0.0000	3,549.5190	3,549.5190	0.7713	0.0000	3,563.7588

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	54.00	0.00	41.28	57.12	0.00	35.80	0.00	0.00	0.00	0.00	0.00	0.00

## 2.2 Overall Operational

### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Area	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Energy	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225
Mobile	0.3198	2.3645	4.3158	0.0170	1.2283	0.0152	1.2435	0.3287	0.0143	0.3430		1,725.4231	1,725.4231	0.0788		1,727.3926
Offroad	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Total	3.2478	5.9288	7.5038	0.0258	1.2283	0.2822	1.5105	0.3287	0.2659	0.5946		3,184.5245	3,184.5245	0.1969	0.0213	3,195.8010

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Energy	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225
Mobile	0.3198	2.3645	4.3158	0.0170	1.2283	0.0152	1.2435	0.3287	0.0143	0.3430		1,725.4231	1,725.4231	0.0788		1,727.3926
Offroad	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Total	3.2478	5.9288	7.5038	0.0258	1.2283	0.2822	1.5105	0.3287	0.2659	0.5946		3,184.5245	3,184.5245	0.1969	0.0213	3,195.8010

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
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1	Site Preparation	Site Preparation	8/1/2018	8/3/2018	5	3
2	Grading	Grading	8/4/2018	8/13/2018	5	6
3	Building Construction	Building Construction	8/14/2018	6/17/2019	5	220
4	Paving	Paving	6/18/2019	7/1/2019	5	10
5	Architectural Coating	Architectural Coating	7/2/2019	7/15/2019	5	10

**Acres of Grading (Site Preparation Phase): 4.5**

**Acres of Grading (Grading Phase): 3**

**Acres of Paving: 0.23**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 179,984; Non-Residential Outdoor: 59,995; Striped Parking**

### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	54.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

### 3.2 Site Preparation - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.413 1	2,468.413 1	0.7685		2,487.624 4
<b>Total</b>	<b>1.8995</b>	<b>23.6201</b>	<b>12.7461</b>	<b>0.0245</b>	<b>1.5908</b>	<b>0.9540</b>	<b>2.5448</b>	<b>0.1718</b>	<b>0.8777</b>	<b>1.0494</b>		<b>2,468.413 1</b>	<b>2,468.413 1</b>	<b>0.7685</b>		<b>2,487.624 4</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0306	0.3957	9.4000e-004	0.0894	5.6000e-004	0.0900	0.0237	5.1000e-004	0.0242		93.8617	93.8617	2.8600e-003		93.9332
<b>Total</b>	<b>0.0482</b>	<b>0.0306</b>	<b>0.3957</b>	<b>9.4000e-004</b>	<b>0.0894</b>	<b>5.6000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.1000e-004</b>	<b>0.0242</b>		<b>93.8617</b>	<b>93.8617</b>	<b>2.8600e-003</b>		<b>93.9332</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6204	0.0000	0.6204	0.0670	0.0000	0.0670			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4
<b>Total</b>	<b>1.8995</b>	<b>23.6201</b>	<b>12.7461</b>	<b>0.0245</b>	<b>0.6204</b>	<b>0.9540</b>	<b>1.5744</b>	<b>0.0670</b>	<b>0.8777</b>	<b>0.9447</b>	<b>0.0000</b>	<b>2,468.413 1</b>	<b>2,468.413 1</b>	<b>0.7685</b>		<b>2,487.624 4</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0306	0.3957	9.4000e-004	0.0894	5.6000e-004	0.0900	0.0237	5.1000e-004	0.0242		93.8617	93.8617	2.8600e-003		93.9332
<b>Total</b>	<b>0.0482</b>	<b>0.0306</b>	<b>0.3957</b>	<b>9.4000e-004</b>	<b>0.0894</b>	<b>5.6000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.1000e-004</b>	<b>0.0242</b>		<b>93.8617</b>	<b>93.8617</b>	<b>2.8600e-003</b>		<b>93.9332</b>

### 3.3 Grading - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.4666	2,077.4666	0.6467		2,093.6352
<b>Total</b>	<b>2.1515</b>	<b>24.2895</b>	<b>10.3804</b>	<b>0.0206</b>	<b>6.5523</b>	<b>1.1683</b>	<b>7.7206</b>	<b>3.3675</b>	<b>1.0748</b>	<b>4.4423</b>		<b>2,077.4666</b>	<b>2,077.4666</b>	<b>0.6467</b>		<b>2,093.6352</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0383	0.4946	1.1800e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		117.3271	117.3271	3.5700e-003		117.4164
<b>Total</b>	<b>0.0602</b>	<b>0.0383</b>	<b>0.4946</b>	<b>1.1800e-003</b>	<b>0.1118</b>	<b>7.0000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.4000e-004</b>	<b>0.0303</b>		<b>117.3271</b>	<b>117.3271</b>	<b>3.5700e-003</b>		<b>117.4164</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
<b>Total</b>	<b>2.1515</b>	<b>24.2895</b>	<b>10.3804</b>	<b>0.0206</b>	<b>2.5554</b>	<b>1.1683</b>	<b>3.7237</b>	<b>1.3133</b>	<b>1.0748</b>	<b>2.3882</b>	<b>0.0000</b>	<b>2,077.466 6</b>	<b>2,077.466 6</b>	<b>0.6467</b>		<b>2,093.635 2</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0383	0.4946	1.1800e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		117.3271	117.3271	3.5700e-003		117.4164
<b>Total</b>	<b>0.0602</b>	<b>0.0383</b>	<b>0.4946</b>	<b>1.1800e-003</b>	<b>0.1118</b>	<b>7.0000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.4000e-004</b>	<b>0.0303</b>		<b>117.3271</b>	<b>117.3271</b>	<b>3.5700e-003</b>		<b>117.4164</b>

### 3.4 Building Construction - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2
<b>Total</b>	<b>2.9127</b>	<b>20.7077</b>	<b>15.7183</b>	<b>0.0250</b>		<b>1.2575</b>	<b>1.2575</b>		<b>1.2051</b>	<b>1.2051</b>		<b>2,329.775 9</b>	<b>2,329.775 9</b>	<b>0.5019</b>		<b>2,342.323 2</b>



Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0774	2.5515	0.4936	5.5600e-003	0.1345	0.0214	0.1559	0.0387	0.0205	0.0592		586.1766	586.1766	0.0484		587.3869
Worker	0.3251	0.2068	2.6707	6.3700e-003	0.6036	3.7700e-003	0.6074	0.1601	3.4800e-003	0.1636		633.5666	633.5666	0.0193		634.0488
Total	0.4025	2.7582	3.1643	0.0119	0.7381	0.0252	0.7632	0.1988	0.0240	0.2227		1,219.7431	1,219.7431	0.0677		1,221.4356

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0774	2.5515	0.4936	5.5600e-003	0.1345	0.0214	0.1559	0.0387	0.0205	0.0592		586.1766	586.1766	0.0484		587.3869
Worker	0.3251	0.2068	2.6707	6.3700e-003	0.6036	3.7700e-003	0.6074	0.1601	3.4800e-003	0.1636		633.5666	633.5666	0.0193		634.0488
<b>Total</b>	<b>0.4025</b>	<b>2.7582</b>	<b>3.1643</b>	<b>0.0119</b>	<b>0.7381</b>	<b>0.0252</b>	<b>0.7632</b>	<b>0.1988</b>	<b>0.0240</b>	<b>0.2227</b>		<b>1,219.7431</b>	<b>1,219.7431</b>	<b>0.0677</b>		<b>1,221.4356</b>

### 3.4 Building Construction - 2019

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
<b>Total</b>	<b>2.5581</b>	<b>18.9103</b>	<b>15.2545</b>	<b>0.0250</b>		<b>1.0901</b>	<b>1.0901</b>		<b>1.0449</b>	<b>1.0449</b>		<b>2,312.1454</b>	<b>2,312.1454</b>	<b>0.4810</b>		<b>2,324.1705</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0700	2.3905	0.4480	5.5300e-003	0.1345	0.0182	0.1526	0.0387	0.0174	0.0561		582.3355	582.3355	0.0466		583.5004
Worker	0.2973	0.1825	2.3990	6.1700e-003	0.6036	3.7300e-003	0.6073	0.1601	3.4300e-003	0.1635		614.2621	614.2621	0.0172		614.6920

<b>Total</b>	<b>0.3673</b>	<b>2.5730</b>	<b>2.8470</b>	<b>0.0117</b>	<b>0.7381</b>	<b>0.0219</b>	<b>0.7600</b>	<b>0.1988</b>	<b>0.0208</b>	<b>0.2196</b>		<b>1,196.597</b>	<b>1,196.597</b>	<b>0.0638</b>		<b>1,198.192</b>
												<b>5</b>	<b>5</b>			<b>3</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145	2,312.145	0.4810		2,324.170
												4	4			5
<b>Total</b>	<b>2.5581</b>	<b>18.9103</b>	<b>15.2545</b>	<b>0.0250</b>		<b>1.0901</b>	<b>1.0901</b>		<b>1.0449</b>	<b>1.0449</b>	<b>0.0000</b>	<b>2,312.145</b>	<b>2,312.145</b>	<b>0.4810</b>		<b>2,324.170</b>
												4	4			5

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0700	2.3905	0.4480	5.5300e-003	0.1345	0.0182	0.1526	0.0387	0.0174	0.0561		582.3355	582.3355	0.0466		583.5004
Worker	0.2973	0.1825	2.3990	6.1700e-003	0.6036	3.7300e-003	0.6073	0.1601	3.4300e-003	0.1635		614.2621	614.2621	0.0172		614.6920
<b>Total</b>	<b>0.3673</b>	<b>2.5730</b>	<b>2.8470</b>	<b>0.0117</b>	<b>0.7381</b>	<b>0.0219</b>	<b>0.7600</b>	<b>0.1988</b>	<b>0.0208</b>	<b>0.2196</b>		<b>1,196.597</b>	<b>1,196.597</b>	<b>0.0638</b>		<b>1,198.192</b>
												5	5			3

## 3.5 Paving - 2019

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3056	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0826	0.0507	0.6664	1.7100e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		170.6284	170.6284	4.7800e-003		170.7478
Total	0.0826	0.0507	0.6664	1.7100e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		170.6284	170.6284	4.7800e-003		170.7478

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	1.3056	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0
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### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0826	0.0507	0.6664	1.7100e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		170.6284	170.6284	4.7800e-003		170.7478
Total	0.0826	0.0507	0.6664	1.7100e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		170.6284	170.6284	4.7800e-003		170.7478

### 3.6 Architectural Coating - 2019

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.7542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	56.0206	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0372	0.4887	1.2600e-003	0.1230	7.6000e-004	0.1237	0.0326	7.0000e-004	0.0333		125.1275	125.1275	3.5000e-003		125.2150
<b>Total</b>	<b>0.0606</b>	<b>0.0372</b>	<b>0.4887</b>	<b>1.2600e-003</b>	<b>0.1230</b>	<b>7.6000e-004</b>	<b>0.1237</b>	<b>0.0326</b>	<b>7.0000e-004</b>	<b>0.0333</b>		<b>125.1275</b>	<b>125.1275</b>	<b>3.5000e-003</b>		<b>125.2150</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.7542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
<b>Total</b>	<b>56.0206</b>	<b>1.8354</b>	<b>1.8413</b>	<b>2.9700e-003</b>		<b>0.1288</b>	<b>0.1288</b>		<b>0.1288</b>	<b>0.1288</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0238</b>		<b>282.0423</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0606	0.0372	0.4887	1.2600e-003	0.1230	7.6000e-004	0.1237	0.0326	7.0000e-004	0.0333		125.1275	125.1275	3.5000e-003		125.2150
Total	0.0606	0.0372	0.4887	1.2600e-003	0.1230	7.6000e-004	0.1237	0.0326	7.0000e-004	0.0333		125.1275	125.1275	3.5000e-003		125.2150

#### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3198	2.3645	4.3158	0.0170	1.2283	0.0152	1.2435	0.3287	0.0143	0.3430		1,725.4231	1,725.4231	0.0788		1,727.3926
Unmitigated	0.3198	2.3645	4.3158	0.0170	1.2283	0.0152	1.2435	0.3287	0.0143	0.3430		1,725.4231	1,725.4231	0.0788		1,727.3926

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	110.30	24.60	10.50	269,958	269,958
Manufacturing	24.20	2.20	2.20	163,264	163,264
Parking Lot	0.00	0.00	0.00		
Total	134.50	26.80	12.70	433,222	433,222

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Manufacturing	40.00	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Manufacturing	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225
NaturalGas Unmitigated	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225

5.2 Energy by Land Use - NaturalGas  
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	95.0685	1.0300e-003	9.3200e-003	7.8300e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.1845	11.1845	2.1000e-004	2.1000e-004	11.2510



Manufacturing	9790.53	0.1056	0.9599	0.8063	5.7600e-003		0.0730	0.0730		0.0730	0.0730		1,151.8268	1,151.8268	0.0221	0.0211	1,158.6715
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.1066</b>	<b>0.9692</b>	<b>0.8141</b>	<b>5.8200e-003</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>1,163.0113</b>	<b>1,163.0113</b>	<b>0.0223</b>	<b>0.0213</b>	<b>1,169.9225</b>

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0950685	1.0300e-003	9.3200e-003	7.8300e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.1845	11.1845	2.1000e-004	2.1000e-004	11.2510
Manufacturing	9.79053	0.1056	0.9599	0.8063	5.7600e-003		0.0730	0.0730		0.0730	0.0730		1,151.8268	1,151.8268	0.0221	0.0211	1,158.6715
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.1066</b>	<b>0.9692</b>	<b>0.8141</b>	<b>5.8200e-003</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>1,163.0113</b>	<b>1,163.0113</b>	<b>0.0223</b>	<b>0.0213</b>	<b>1,169.9225</b>

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Unmitigated	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1528					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.3793					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2600e-003	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Total	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1528					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.3793					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2600e-003	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Total	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	2	8.00	260	89	0.20	Electrical

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Total	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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## Stratos Fuel Hydrogen Plant - Riverside-South Coast County, Winter

## Stratos Fuel Hydrogen Plant

### Riverside-South Coast County, Winter

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	10.00	1000sqft	0.23	10,000.00	0
Manufacturing	109.99	1000sqft	2.52	109,989.00	0
Parking Lot	10.00	1000sqft	0.23	10,000.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.4	<b>Precipitation Freq (Days)</b>	28
<b>Climate Zone</b>	10			<b>Operational Year</b>	2020
<b>Utility Company</b>	User Defined				
<b>CO2 Intensity (lb/MW hr)</b>	0	<b>CH4 Intensity (lb/MW hr)</b>	0	<b>N2O Intensity (lb/MW hr)</b>	0

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Facility's electricity will come from Stratos' instate 140MW wind/solar 30-year power purchase agreement (PPA)

Land Use -

Construction Phase -

Architectural Coating - Assume coatings are compliant with SCAQMD Rule 1113

Vehicle Trips - Plant would have 5-25 trucks hauling hydrogen per week day, normal office commuters. There would be minimal weekend operations.

Area Coating - Assume coatings are compliant with SCAQMD Rule 1113

Energy Use - facility's electricity will come from Stratos' instate 140MW wind/solar 30-year power purchase agreement (PPA)

Sequestration - Estimated number of trees based on project description.

Construction Off-road Equipment Mitigation - Required dust control measures to comply with SCAQMD Rule 403.

Operational Off-Road Equipment - Assume 2 forklifts for truck loading and unloading.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	3.66	0.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	T24E	3.07	0.00
tblEnergyUse	T24E	2.20	0.00
tblLandUse	LandUseSquareFeet	109,990.00	109,989.00
tblLandUse	LotAcreage	2.53	2.52
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblSequestration	NumberOfNewTrees	0.00	10.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	ST_TR	1.49	0.02
tblVehicleTrips	SU_TR	0.62	0.02
tblVehicleTrips	WD_TR	3.82	0.22

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.3110	24.3292	18.4585	0.0361	6.6641	1.2829	7.8331	3.3971	1.2293	4.4726	0.0000	3,462.5855	3,462.5855	0.7709	0.0000	3,476.8954
2019	56.0798	21.4842	17.7196	0.0359	0.7381	1.1123	1.8503	0.1988	1.0659	1.2647	0.0000	3,423.7958	3,423.7958	0.5477	0.0000	3,437.4888
Maximum	56.0798	24.3292	18.4585	0.0361	6.6641	1.2829	7.8331	3.3971	1.2293	4.4726	0.0000	3,462.5855	3,462.5855	0.7709	0.0000	3,476.8954

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.3110	24.3292	18.4585	0.0361	2.6672	1.2829	3.8362	1.3430	1.2293	2.4184	0.0000	3,462.5855	3,462.5855	0.7709	0.0000	3,476.8954
2019	56.0798	21.4842	17.7196	0.0359	0.7381	1.1123	1.8503	0.1988	1.0659	1.2647	0.0000	3,423.7958	3,423.7958	0.5477	0.0000	3,437.4888
Maximum	56.0798	24.3292	18.4585	0.0361	2.6672	1.2829	3.8362	1.3430	1.2293	2.4184	0.0000	3,462.5855	3,462.5855	0.7709	0.0000	3,476.8954

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	54.00	0.00	41.28	57.12	0.00	35.80	0.00	0.00	0.00	0.00	0.00	0.00

## 2.2 Overall Operational

### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Area	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Energy	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225
Mobile	0.2743	2.3858	3.6842	0.0156	1.2283	0.0153	1.2436	0.3287	0.0144	0.3431		1,594.2805	1,594.2805	0.0800		1,596.2792
Offroad	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Total	3.2022	5.9501	6.8722	0.0245	1.2283	0.2823	1.5106	0.3287	0.2660	0.5947		3,053.3819	3,053.3819	0.1981	0.0213	3,064.6875

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Energy	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225
Mobile	0.2743	2.3858	3.6842	0.0156	1.2283	0.0153	1.2436	0.3287	0.0144	0.3431		1,594.2805	1,594.2805	0.0800		1,596.2792
Offroad	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Total	3.2022	5.9501	6.8722	0.0245	1.2283	0.2823	1.5106	0.3287	0.2660	0.5947		3,053.3819	3,053.3819	0.1981	0.0213	3,064.6875

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
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1	Site Preparation	Site Preparation	8/1/2018	8/3/2018	5	3
2	Grading	Grading	8/4/2018	8/13/2018	5	6
3	Building Construction	Building Construction	8/14/2018	6/17/2019	5	220
4	Paving	Paving	6/18/2019	7/1/2019	5	10
5	Architectural Coating	Architectural Coating	7/2/2019	7/15/2019	5	10

**Acres of Grading (Site Preparation Phase): 4.5**

**Acres of Grading (Grading Phase): 3**

**Acres of Paving: 0.23**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 179,984; Non-Residential Outdoor: 59,995; Striped Parking**

### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	54.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

### 3.2 Site Preparation - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.413 1	2,468.413 1	0.7685		2,487.624 4
<b>Total</b>	<b>1.8995</b>	<b>23.6201</b>	<b>12.7461</b>	<b>0.0245</b>	<b>1.5908</b>	<b>0.9540</b>	<b>2.5448</b>	<b>0.1718</b>	<b>0.8777</b>	<b>1.0494</b>		<b>2,468.413 1</b>	<b>2,468.413 1</b>	<b>0.7685</b>		<b>2,487.624 4</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0470	0.0317	0.3216	8.5000e-004	0.0894	5.6000e-004	0.0900	0.0237	5.1000e-004	0.0242		84.2175	84.2175	2.4900e-003		84.2797
<b>Total</b>	<b>0.0470</b>	<b>0.0317</b>	<b>0.3216</b>	<b>8.5000e-004</b>	<b>0.0894</b>	<b>5.6000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.1000e-004</b>	<b>0.0242</b>		<b>84.2175</b>	<b>84.2175</b>	<b>2.4900e-003</b>		<b>84.2797</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6204	0.0000	0.6204	0.0670	0.0000	0.0670			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4
<b>Total</b>	<b>1.8995</b>	<b>23.6201</b>	<b>12.7461</b>	<b>0.0245</b>	<b>0.6204</b>	<b>0.9540</b>	<b>1.5744</b>	<b>0.0670</b>	<b>0.8777</b>	<b>0.9447</b>	<b>0.0000</b>	<b>2,468.413 1</b>	<b>2,468.413 1</b>	<b>0.7685</b>		<b>2,487.624 4</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0470	0.0317	0.3216	8.5000e-004	0.0894	5.6000e-004	0.0900	0.0237	5.1000e-004	0.0242		84.2175	84.2175	2.4900e-003		84.2797
<b>Total</b>	<b>0.0470</b>	<b>0.0317</b>	<b>0.3216</b>	<b>8.5000e-004</b>	<b>0.0894</b>	<b>5.6000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.1000e-004</b>	<b>0.0242</b>		<b>84.2175</b>	<b>84.2175</b>	<b>2.4900e-003</b>		<b>84.2797</b>

### 3.3 Grading - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.4666	2,077.4666	0.6467		2,093.6352
<b>Total</b>	<b>2.1515</b>	<b>24.2895</b>	<b>10.3804</b>	<b>0.0206</b>	<b>6.5523</b>	<b>1.1683</b>	<b>7.7206</b>	<b>3.3675</b>	<b>1.0748</b>	<b>4.4423</b>		<b>2,077.4666</b>	<b>2,077.4666</b>	<b>0.6467</b>		<b>2,093.6352</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		105.2718	105.2718	3.1100e-003		105.3497
<b>Total</b>	<b>0.0588</b>	<b>0.0397</b>	<b>0.4020</b>	<b>1.0600e-003</b>	<b>0.1118</b>	<b>7.0000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.4000e-004</b>	<b>0.0303</b>		<b>105.2718</b>	<b>105.2718</b>	<b>3.1100e-003</b>		<b>105.3497</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
<b>Total</b>	<b>2.1515</b>	<b>24.2895</b>	<b>10.3804</b>	<b>0.0206</b>	<b>2.5554</b>	<b>1.1683</b>	<b>3.7237</b>	<b>1.3133</b>	<b>1.0748</b>	<b>2.3882</b>	<b>0.0000</b>	<b>2,077.466 6</b>	<b>2,077.466 6</b>	<b>0.6467</b>		<b>2,093.635 2</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0588	0.0397	0.4020	1.0600e-003	0.1118	7.0000e-004	0.1125	0.0296	6.4000e-004	0.0303		105.2718	105.2718	3.1100e-003		105.3497
<b>Total</b>	<b>0.0588</b>	<b>0.0397</b>	<b>0.4020</b>	<b>1.0600e-003</b>	<b>0.1118</b>	<b>7.0000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.4000e-004</b>	<b>0.0303</b>		<b>105.2718</b>	<b>105.2718</b>	<b>3.1100e-003</b>		<b>105.3497</b>

### 3.4 Building Construction - 2018

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2
<b>Total</b>	<b>2.9127</b>	<b>20.7077</b>	<b>15.7183</b>	<b>0.0250</b>		<b>1.2575</b>	<b>1.2575</b>		<b>1.2051</b>	<b>1.2051</b>		<b>2,329.775 9</b>	<b>2,329.775 9</b>	<b>0.5019</b>		<b>2,342.323 2</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0811	2.5494	0.5693	5.3600e-003	0.1345	0.0217	0.1561	0.0387	0.0207	0.0594		564.3418	564.3418	0.0537		565.6839
Worker	0.3172	0.2142	2.1708	5.7100e-003	0.6036	3.7700e-003	0.6074	0.1601	3.4800e-003	0.1636		568.4678	568.4678	0.0168		568.8883
Total	0.3983	2.7636	2.7402	0.0111	0.7381	0.0254	0.7635	0.1988	0.0242	0.2230		1,132.8096	1,132.8096	0.0705		1,134.5722

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0811	2.5494	0.5693	5.3600e-003	0.1345	0.0217	0.1561	0.0387	0.0207	0.0594		564.3418	564.3418	0.0537		565.6839
Worker	0.3172	0.2142	2.1708	5.7100e-003	0.6036	3.7700e-003	0.6074	0.1601	3.4800e-003	0.1636		568.4678	568.4678	0.0168		568.8883
<b>Total</b>	<b>0.3983</b>	<b>2.7636</b>	<b>2.7402</b>	<b>0.0111</b>	<b>0.7381</b>	<b>0.0254</b>	<b>0.7635</b>	<b>0.1988</b>	<b>0.0242</b>	<b>0.2230</b>		<b>1,132.8096</b>	<b>1,132.8096</b>	<b>0.0705</b>		<b>1,134.5722</b>

### 3.4 Building Construction - 2019

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
<b>Total</b>	<b>2.5581</b>	<b>18.9103</b>	<b>15.2545</b>	<b>0.0250</b>		<b>1.0901</b>	<b>1.0901</b>		<b>1.0449</b>	<b>1.0449</b>		<b>2,312.1454</b>	<b>2,312.1454</b>	<b>0.4810</b>		<b>2,324.1705</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0734	2.3851	0.5209	5.3200e-003	0.1345	0.0184	0.1529	0.0387	0.0176	0.0563		560.5711	560.5711	0.0518		561.8652
Worker	0.2905	0.1889	1.9443	5.5300e-003	0.6036	3.7300e-003	0.6073	0.1601	3.4300e-003	0.1635		551.0793	551.0793	0.0150		551.4531

Total	0.3639	2.5740	2.4652	0.0109	0.7381	0.0221	0.7602	0.1988	0.0210	0.2198		1,111.650 4	1,111.650 4	0.0667		1,113.318 3
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### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0734	2.3851	0.5209	5.3200e-003	0.1345	0.0184	0.1529	0.0387	0.0176	0.0563		560.5711	560.5711	0.0518		561.8652
Worker	0.2905	0.1889	1.9443	5.5300e-003	0.6036	3.7300e-003	0.6073	0.1601	3.4300e-003	0.1635		551.0793	551.0793	0.0150		551.4531
Total	0.3639	2.5740	2.4652	0.0109	0.7381	0.0221	0.7602	0.1988	0.0210	0.2198		1,111.650 4	1,111.650 4	0.0667		1,113.318 3

## 3.5 Paving - 2019

### Unmitigated Construction On-Site



	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.3056</b>	<b>12.5685</b>	<b>11.8507</b>	<b>0.0178</b>		<b>0.7301</b>	<b>0.7301</b>		<b>0.6728</b>	<b>0.6728</b>		<b>1,746.243 2</b>	<b>1,746.243 2</b>	<b>0.5418</b>		<b>1,759.787 0</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		153.0776	153.0776	4.1500e-003		153.1814
<b>Total</b>	<b>0.0807</b>	<b>0.0525</b>	<b>0.5401</b>	<b>1.5400e-003</b>	<b>0.1677</b>	<b>1.0300e-003</b>	<b>0.1687</b>	<b>0.0445</b>	<b>9.5000e-004</b>	<b>0.0454</b>		<b>153.0776</b>	<b>153.0776</b>	<b>4.1500e-003</b>		<b>153.1814</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	1.3056	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0
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### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		153.0776	153.0776	4.1500e-003		153.1814
Total	0.0807	0.0525	0.5401	1.5400e-003	0.1677	1.0300e-003	0.1687	0.0445	9.5000e-004	0.0454		153.0776	153.0776	4.1500e-003		153.1814

### 3.6 Architectural Coating - 2019

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.7542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	56.0206	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0592	0.0385	0.3961	1.1300e-003	0.1230	7.6000e-004	0.1237	0.0326	7.0000e-004	0.0333		112.2569	112.2569	3.0500e-003		112.3330
<b>Total</b>	<b>0.0592</b>	<b>0.0385</b>	<b>0.3961</b>	<b>1.1300e-003</b>	<b>0.1230</b>	<b>7.6000e-004</b>	<b>0.1237</b>	<b>0.0326</b>	<b>7.0000e-004</b>	<b>0.0333</b>		<b>112.2569</b>	<b>112.2569</b>	<b>3.0500e-003</b>		<b>112.3330</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.7542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
<b>Total</b>	<b>56.0206</b>	<b>1.8354</b>	<b>1.8413</b>	<b>2.9700e-003</b>		<b>0.1288</b>	<b>0.1288</b>		<b>0.1288</b>	<b>0.1288</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0238</b>		<b>282.0423</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0592	0.0385	0.3961	1.1300e-003	0.1230	7.6000e-004	0.1237	0.0326	7.0000e-004	0.0333		112.2569	112.2569	3.0500e-003		112.3330
Total	0.0592	0.0385	0.3961	1.1300e-003	0.1230	7.6000e-004	0.1237	0.0326	7.0000e-004	0.0333		112.2569	112.2569	3.0500e-003		112.3330

#### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2743	2.3858	3.6842	0.0156	1.2283	0.0153	1.2436	0.3287	0.0144	0.3431		1,594.2805	1,594.2805	0.0800		1,596.2792
Unmitigated	0.2743	2.3858	3.6842	0.0156	1.2283	0.0153	1.2436	0.3287	0.0144	0.3431		1,594.2805	1,594.2805	0.0800		1,596.2792

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	110.30	24.60	10.50	269,958	269,958
Manufacturing	24.20	2.20	2.20	163,264	163,264
Parking Lot	0.00	0.00	0.00		
Total	134.50	26.80	12.70	433,222	433,222

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Manufacturing	40.00	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Manufacturing	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225
NaturalGas Unmitigated	0.1066	0.9692	0.8141	5.8200e-003		0.0737	0.0737		0.0737	0.0737		1,163.0113	1,163.0113	0.0223	0.0213	1,169.9225

5.2 Energy by Land Use - NaturalGas  
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	95.0685	1.0300e-003	9.3200e-003	7.8300e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.1845	11.1845	2.1000e-004	2.1000e-004	11.2510

Manufacturing	9790.53	0.1056	0.9599	0.8063	5.7600e-003		0.0730	0.0730		0.0730	0.0730		1,151.8268	1,151.8268	0.0221	0.0211	1,158.6715
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.1066</b>	<b>0.9692</b>	<b>0.8141</b>	<b>5.8200e-003</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>1,163.0113</b>	<b>1,163.0113</b>	<b>0.0223</b>	<b>0.0213</b>	<b>1,169.9225</b>

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0950685	1.0300e-003	9.3200e-003	7.8300e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		11.1845	11.1845	2.1000e-004	2.1000e-004	11.2510
Manufacturing	9.79053	0.1056	0.9599	0.8063	5.7600e-003		0.0730	0.0730		0.0730	0.0730		1,151.8268	1,151.8268	0.0221	0.0211	1,158.6715
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.1066</b>	<b>0.9692</b>	<b>0.8141</b>	<b>5.8200e-003</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>1,163.0113</b>	<b>1,163.0113</b>	<b>0.0223</b>	<b>0.0213</b>	<b>1,169.9225</b>

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Unmitigated	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1528					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.3793					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2600e-003	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Total	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1528					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.3793					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2600e-003	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304
Total	2.5333	1.2000e-004	0.0134	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0285	0.0285	8.0000e-005		0.0304

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	2	8.00	260	89	0.20	Electrical

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Total	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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