March 2024
Port of Stockton BayoTech Hydrogen Production and Filling Facility Project

ANCHOR QEA

Recirculated Draft Initial Study/Mitigated Negative Declaration

Prepared for Port of Stockton

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ABBREVIATIONS

2040 General Plan	*Envision Stockton 2040 General Plan*
AB	Assembly Bill
AB 32	California Global Warming Solutions Act of 2006
ACF	Advanced Clean Fleets
ANSI	American National Standards Institute
BAU	business as usual
BNSF	BNSF Railway
BPS	best performance standard
BTU	British thermal unit
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	*City of Stockton Climate Action Plan*
CAPP	Community Air Protection Program
CARB	California Air Resources Board
CBA	Community Benefits Agreement
CCT	Central California Traction Company
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	*Code of Federal Regulations*
CH_4	methane
CHRIS	California Historical Resources Information System
CI	carbon intensity
City	City of Stockton
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalence
CPUC	California Public Utilities Commission
Crosstown Freeway	Ort J. Lofthus Freeway

CSA	Canadian Standards Association
CSLC	California State Lands Commission
cy	cubic yard
dB	decibel
dBA	A-weighted decibel
Delta	Sacramento-San Joaquin River Delta
DNL	Day-Night Average Sound Level
DPM	diesel particulate matter
EIR	environmental impact report
EO	executive order
ESA	Endangered Species Act
FCEV	fuel cell electric vehicle
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
g/cm^3	gram per cubic centimeter
GHG	greenhouse gas
gpd	gallons per day
GWP	global warming potential
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
HGV	hot gas valve
I	Interstate
ICSS	Integrated Control and Safety System
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
ITMM	incidental take minimization measure
kg	kilogram
kg/day	kilograms per day
kg/yr	kilograms per year
kWh	kilowatt hour
kWh/day	kilowatt hours per day
kWh/yr	kilowatt hours per year
LCFS	Low Carbon Fuel Standard
L_{dn}	day/night average sound level
L_{eq}	equivalent sound level

LLDT	long lead double track
L_{max}	maximum sound level
L_{min}	minimum sound level
L_n	percentile exceeded noise level
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MEI	Maximally Exposed Individual
MICR	Maximally exposed individual Increased Cancer Risk
MJ	Megajoule
MRZ	mineral resource zone
MT	metric ton
N cc/hr	normal cubic centimeters per hour
N_2O	nitrous oxide
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NGO	non-governmental organization
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O_3	ozone
OPR	Governor's Office of Planning and Research
OPR Technical Advisory	*Technical Advisory on Evaluating Transportation Impacts in CEQA*
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric
PLC	programmable logic controllers
PM	particulate matter
PM_{10}	particulate matter 10 microns or smaller in diameter
$PM_{2.5}$	particulate matter 2.5 microns or smaller in diameter
Port	Port of Stockton
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
psi	pounds per square inch
PSIP	Periodic Smoke Inspection Program

RNG	renewable natural gas
ROG	reactive organic gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCR	selective catalytic reduction
sf	square foot
SIP	state implementation plan
SJCOG	San Joaquin Council of Governments
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMC	City of Stockton Municipal Code
SMP	soil management plan
SMR	steam methane reformer
SO_x	sulfur oxide
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SR	State Route
syngas	synthesis gas
TAC	toxic air contaminant
TIA	Transportation Impact Analysis
UP	Union Pacific Railroad
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
ZEV	zero-emission vehicle

1 Introduction

1.1 California Environmental Quality Act Process

This Recirculated Draft Initial Study/Mitigated Negative Declaration (IS/MND) was prepared by the Port of Stockton (Port) to identify the potential environmental impacts of the proposed BayoTech Hydrogen Production and Filling Facility Project (proposed project) under the California Environmental Quality Act (CEQA; 13 Public Resources Code [PRC] 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). The IS/MND was originally released and circulated for a 30-day public notice period on May 30, 2023. Based on public comment and an inconsistency found in the document related to electricity use, the Port elected to recirculate the document. The IS/MND is recirculated in its entirety using text call out boxes to denote new information that was added as a result of recirculation. Responses to all substantive comments received on the Draft IS/MND are included in Appendix A.

The proposed project involves development and operation of a hydrogen production and filling facility at the Port. BayoTech, Inc. (BayoTech), would operate the hydrogen production and filling facility to produce and distribute hydrogen to customers throughout the region. The Port is the lead agency for the proposed project under CEQA.

One of the main objectives of CEQA is to disclose the potential environmental effects of proposed activities to the public and decision-makers. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/MND includes a discussion of the proposed project's impacts on the existing environment, including the identification of avoidance, minimization, and mitigation measures.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed project. The Port has directed the preparation of an environmental document that complies with CEQA and will consider the information in this document when determining whether to approve the proposed project. The preparation of initial studies is guided by Section 15063 of the CEQA Guidelines, whereas Sections 15070 through 15075 guide the process for the preparation of a Negative or Mitigated Negative Declaration. Where appropriate and supportive to an understanding of the issues, reference will be made to the statute, the CEQA Guidelines, or appropriate case law.

This IS/MND meets CEQA content requirements by including a project description; descriptions of the environmental setting, potential environmental impacts, and mitigation measures for any potentially significant impacts; and discussion of the proposed project's consistency with plans and policies.

1.2 Lead Responsible and Trustee Agencies

The CEQA Guidelines identify "the lead agency as the public agency which has the principal responsibility for carrying out or approving a project" (14 CCR 15367). The Port is the CEQA lead agency for the proposed project and has the primary responsibility for carrying out the proposed project.

Projects or actions undertaken by the lead agency (in this case, the Port) may require subsequent oversight, approvals, or permits from other public agencies. Other such agencies are referred to as responsible agencies and trustee agencies. Pursuant to CEQA Guidelines Sections 15381 and 15386, as amended, responsible and trustee agencies are defined as follows:

1. A **responsible agency** is "a public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term 'Responsible Agency' includes all public agencies other than the Lead Agency which have discretionary approval authority over the project" (CEQA Guidelines Section 15381).
2. A **trustee agency** is "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California" (CEQA Guidelines Section 15386). Trustee agencies have jurisdiction over natural resources held in trust for the people of California but do not have a legal authority over approving or carrying out a project. CEQA Guidelines Section 15386 identifies the following four agencies as potential trustee agencies for projects subject to CEQA:
    - California Department of Fish and Wildlife (CDFW), regarding "fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves"
    - California State Lands Commission (CSLC), regarding "state owned 'sovereign' lands such as the beds of navigable waters and state school lands"
    - California Department of Parks and Recreation, regarding "units of the State Park System"
    - University of California, regarding "sites within the Natural Land and Water Reserves System"

Table 1 summarizes the expected relevant regulatory agencies, their expected jurisdiction (i.e., trustee or responsible agency), and their statutory authority as related to the proposed project. The jurisdiction of these agencies will be confirmed through subsequent coordination.

Table 1
Regulatory Agencies and Authority

Regulatory Agency	Jurisdiction	Statutory Authority/Implementing Regulations
Central Valley Regional Water Quality Control Board	Responsible agency	• Reviews projects for authorization under the Porter-Cologne Water Quality Control Act and Clean Water Act Section 401 and 402 (National Pollutant Discharge Elimination System [NPDES]) The proposed project is expected to require a NPDES permit to regulate construction-related stormwater at the site.
San Joaquin Valley Air Pollution Control District	Responsible agency	• Review authority under the California Clean Air Act • Responsible for implementing federal and state regulations at the local level and permitting stationary sources of air pollution The proposed project is expected to require an air permit for construction of hydrogen cells.
San Joaquin County Department of Environmental Health	Responsible agency	• Regulates the handling, disposal, generation of, and cleanup from accidental spills of hazardous waste, on-site petroleum storage, and drilling activities in San Joaquin County, which may be applicable to the proposed project
San Joaquin Council of Governments	Responsible agency	• Reviews and approves projects obtaining coverage under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, which may be applicable to the proposed project
City of Stockton Building Department	Responsible agency	• Reviews and approves mechanical, electrical, demolition, and building permits in Stockton, which are expected to be required for the proposed project
City of Stockton Public Works	Responsible agency	• Regulates movement of large vehicles through the City on roadways, which will be applicable to the proposed project
Stockton Fire Department	Responsible agency	• Reviews and approves fire protection systems, which will be applicable to the proposed project

1.3 Public Participation, Consultation, and Coordination

Public participation is an integral part of the CEQA process. Public participation facilitates two-way communication between the public and the lead agency (the Port) decision-makers, ensuring that public concerns and input are considered in the final decision. The Port's public participation process ensures that interested persons are informed about discretionary decisions and have the opportunity to provide input. The Port also consults with public agencies in a variety of ways when developing CEQA documents, including direct agency outreach and distribution of documents. This Recirculated Draft IS/MND will be posted on the Port's CEQA webpage at https://www.portofstockton.com/ceqa-documents/ and will be the subject of a public meeting to be held during the 30-day public review period.

1.3.1 Regulatory Guidance Related to Public Outreach and Coordination

1.3.1.1 Assembly Bill 52

Assembly Bill (AB) 52 became effective on July 1, 2015, requiring lead agencies to consider the effects of projects on tribal cultural resources and to conduct notification and consultation with federally and non-federally recognized Native American tribes and the Native American Heritage Commission (NAHC) early in the environmental review process. Two Native American tribes, the Buena Vista Rancheria of Me-Wuk Indians of California and the Wilton Rancheria Tribe, have requested consultation on CEQA documentation for projects at the Port. The Port notified these two tribes—as well as the Tule River Indian Tribe, Confederated Villages of Lisjan, Muwekma Ohlone Indian Tribe of the SF Bay Area, the Wuksachi Indian Tribe/Eshom Valley Band, and the Northern Valley Yokuts Tribe—of the proposed project by email and by letter on July 20, 2022, and requested a search of NAHC's Sacred Lands Information File on July 1, 2022. The NAHC responded on August 8, 2022, that the search was negative.

1.3.1.2 Assembly Bill 617

AB 617 (C. Garcia, Chapter 136, Statutes of 2017) requires the California Air Resources Board (CARB) to develop an air toxic monitoring plan for the State, focusing on community air monitoring at the highest priority locations, considering factors such as the presence of sensitive receptors like schools and hospitals, whether the community is disadvantaged, and whether there is a high degree of exposure to toxic air contaminants (TACs) and criteria air pollutants. In response to AB 617, CARB has established the Community Air Protection Program (CAPP). The goal of CAPP is to reduce exposure in communities most impacted by air pollution. CAPP works with local air districts to implement monitoring networks and address emission sources. Three AB 617 communities have been identified in the San Joaquin Valley, including the Southwest Stockton Community. The San Joaquin Valley Air Pollution Control District (SJVAPCD) is working closely with community residents, community businesses, and other key stakeholders, including the Port, to reduce exposure to harmful air pollutants in selected communities. Through the implementation of the AB 617 legislation, SJVAPCD, with input from the community, will deploy additional community-specific air quality monitoring to better understand the impacts of local sources of pollution and develop community-specific emission reduction programs. The Port is a member of the AB 617 Community Steering Committee and intends to be active in developing strategies to protect public health and the environment.

1.4 Incorporation by Reference

As permitted in Section 15150 of the CEQA Guidelines, CEQA lead agencies may reference all or portions of another document that is a matter of public record or is generally available to the public. Information from documents that have been incorporated by reference is briefly summarized in the appropriate sections of this IS/MND, along with a description of how the public may obtain and

review these documents. The documents that are incorporated by reference in this IS/MND are summarized in Sections 1.4.1 through 1.4.3. Documents that are incorporated by reference are available for review at the Internet links provided in the following sections or during working hours from 8:00 a.m. to 5:00 p.m., Monday through Friday at the Port, at 2201 West Washington Street, Stockton, California 95201.

1.4.1 City of Stockton 2040 General Plan

The City of Stockton's (City's) *Envision Stockton 2040 General Plan* (2040 General Plan; State Clearinghouse [SCH] number 2017052062; City 2018a), which is available online at http://www.stocktongov.com/files/Adopted_Plan.pdf, is appropriate to incorporate by reference because the 2040 General Plan establishes the land use designations for the project site with which the proposed project is consistent. The 2040 General Plan identifies most of the areas surrounding the project site as Industrial/Port Use and specifically identifies the project areas on the East Complex as Industrial. The 2040 General Plan also guides the maintenance, design, and operation of transportation resources in Stockton, including streets and highways within the project area, and sets regional noise standards based on land use designations.

1.4.2 City of Stockton Municipal Code

The City of Stockton Municipal Code (SMC), which is available online at https://qcode.us/codes/stockton/, is appropriate to incorporate by reference because the City designates Landmarks and Historic Sites under SMC Title 16, Division 7, Chapter 16.220. Landmarks are artifacts, natural features, or structures notable for one or more of the following: archaeological interest; architectural artistry, style, or type; association with a historic event or person; association with the heritage of the city, state, or nation; visual characteristics; relationship to another landmark; or integrity as a natural environment. Port resources have been identified as having significant historical or cultural significance. SMC Title 16, Division 5, Chapter 16.130 provides protection for heritage oaks in Stockton.

1.4.3 City of Stockton Climate Action Plan

The City's Climate Action Plan (CAP; SCH number 2012042065; City 2014), which is available online at http://www.stocktonca.gov/files/Climate_Action_Plan_August_2014.pdf, is appropriate to incorporate by reference because the CAP provides goals and associated measures in the sectors of energy use, transportation, land use, water, solid waste, and off-road equipment. Consistent with SJVAPCD, the CAP relied on a goal of 29% reduction in greenhouse gas (GHG) emissions from business as usual by 2020. As described in the CAP (City 2014), the City will "revisit this plan in the future to examine whether there exist additional options to further reduce GHG emissions, and whether such options might be feasible in improved economic conditions" beyond 2020. An updated community GHG inventory was planned during fiscal year 2021 to 2022 but has not yet been released (City 2021a).

1.4.4 Community Benefits Agreement

Independent of the CEQA process, BayoTech is working with the community to develop a framework for a Community Benefits Agreement (CBA). The CBA is a collaborative process to create opportunities for surrounding communities. Projects under discussion and in consideration may include the following:

- Work with local non-profits and non-governmental organizations to create and support climate improvement projects in a targeted local area near the Port, which could include tree plantings, emissions monitoring, solar installations and urban gardens.
- Work with labor and local schools and workforce development entities to build the skilled long-term workforce necessary for the transition to a cleaner environment and stronger local economy.
- Work with locally impacted elementary and middle schools to develop STEM-oriented programs aimed at creating a greater awareness of zero emissions energy options.
- Support continued deployment of air monitoring equipment and reporting at the site and throughout the Port and nearby communities.

New Information:
A CBA was discussed by BayoTech at several community meetings after the release of the Draft IS/MND and is currently being negotiated by BayoTech and the local community groups.

Implementation of a commercially reasonable CBA by BayoTech with the local community groups will be a requirement of the Port.

Separately, BayoTech has entered into a Project Labor Agreement and Maintenance Agreement with the San Joaquin Valley Building and Construction Trades Council that covers various construction and operational jobs related to the Project's construction and operation.

2 Project Description

The proposed project is the development and operation of a hydrogen production and filling facility at the Port in the City. Under the proposed project, BayoTech would develop and operate the hydrogen production and filling facility and produce and distribute hydrogen to customers throughout the region. Hydrogen fuel generates power using a chemical reaction rather than combustion. It is used for a wide range of applications, including supplying electricity to electric power grids and supplying backup or emergency power in buildings, as an alternative zero-emission vehicle (ZEV) fuel, and for military applications. The proposed project would involve issuance of a new lease by the Port to BayoTech for the conversion of a vacant approximately 5-acre parcel into a hydrogen-generation, compression, and storage facility to support an increasing demand for hydrogen fuel, specifically for passenger and heavy vehicle transportation fueling (diesel replacement), fueling of stationary and mobile fuel cell power applications within the Port, and fueling of stationary and mobile fuel cell power applications for commercial and industrial customers.

2.1 Project Location and Environmental Setting

CEQA Guidelines Section 15063(d)(1) requires that an Initial Study identify the environmental setting. This setting is used to determine environmental impacts. As further described in Section 2.1, the approximately 5-acre project site is surfaced with graded soil. There are no structures on the project site and no industrial, commercial, or other uses occur under existing conditions at the project site. The environmental setting as it relates to individual resource topics is described in Section 3.

2.1.1 Regional Setting

The Port is located approximately 75 miles east of San Francisco and 40 miles southeast of Sacramento. The Port is bisected by the San Joaquin River (within which is the Stockton Deep Water Ship Channel) and is subsequently divided into the East Complex and the West Complex (Rough and Ready Island). The Port is located within the City's urban core, which is characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and a variety of other commercial and industrial parcels (Figure 1). The East Complex, where the project is proposed, encompasses approximately 680 acres bounded to the north by the Stockton Deep Water Ship Channel and turning basin; to the east and south by the Port's Public Beltline Railroad main lead and Atchison, Topeka, and Santa Fe Railroads; and to the west by the San Joaquin River.

The proposed project location is at the intersection of W. Washington Street and Navy Drive in the East Complex. The project site is located within a highly developed and industrialized area. The property is bounded by Forrestal Village Road on the north, west, and south and by Navy Drive on the east; train tracks also encircle the northern part of the property. The site is currently vacant and encompasses approximately 5 acres of undeveloped, graded land.

Directly south of the project site, the Port leases property to Pelican Renewables, LLC, which produces renewable transportation fuels at its facility. The Pelican Renewables parcel is characterized by the presence of storage tanks, silos, large storage facilities, railroad facilities, and factory components. Other parcels in the vicinity are used for various industrial uses, with similar characteristics to the Pelican Renewables parcel in addition to maritime terminals and stockpiles of various commodities. The City's 2040 General Plan (City 2018) designates the project site for industrial use, and the zoning classification of the project site and surrounding parcels is Port or Industrial, General.

2.1.2 Project Site Setting

The project site is currently vacant and encompasses approximately 5 acres of undeveloped and unvegetated land (Figure 1; Photograph 1). There is no pavement on the site; the site consists of graded soil. Primary access to the site is at the intersection of Navy Drive and W. Washington Street, via Forrestal Village Road.

Photograph 1
Aerial View of Project Site, April 2022

Figure 1
Vicinity Map

2.2 Project Need and Objectives

The objective of the proposed project is to develop, build, and operate a hydrogen production plant and filling facility using modular production technology to address growing demands for hydrogen fuel in the region and in the state. California is working to make large-scale changes in its energy system to address climate change, improve air quality, and ensure a reliable and resilient energy system as demand grows.

As part of its broader strategy to decarbonize the energy sector, California views hydrogen as a key to decarbonizing hard-to-abate sectors such as transportation, ports and goods movement, and energy storage and resilience (CGOBED 2024). The California Air Resources Board's 2022 Scoping Plan Update calls for scaling the production and use of clean, renewable hydrogen to fully decarbonize California's economy by 2045. As part of the *2019 Integrated Energy Policy Report* (adopted February 2020), the California Energy Commission found that building out a standardized ZEV charging infrastructure and hydrogen fueling infrastructure will be critical to market growth and achieving statewide vehicle and climate goals (CEC 2020) and Executive Order B-48-18 sets a

statewide policy goal of developing 200 hydrogen stations to allow the state to satisfy the fueling needs of more than 100,000 light-duty fuel cell electric vehicles (FCEVs).

Small and local hydrogen production, similar to the proposed project, addresses the need for hydrogen to fuel the growing zero-emission fleets in California by reducing transportation costs and emissions associated with importing hydrogen from larger, more distant providers. With its hydrogen production plant, BayoTech would produce hydrogen for customers and contribute to energy security in the region. Expansion of hydrogen as a transportation fuel has also been supported by the CARB's most recent Advanced Clean Cars program and the Low Carbon Fuel Standard (LCFS).

2.3 Proposed Project Construction

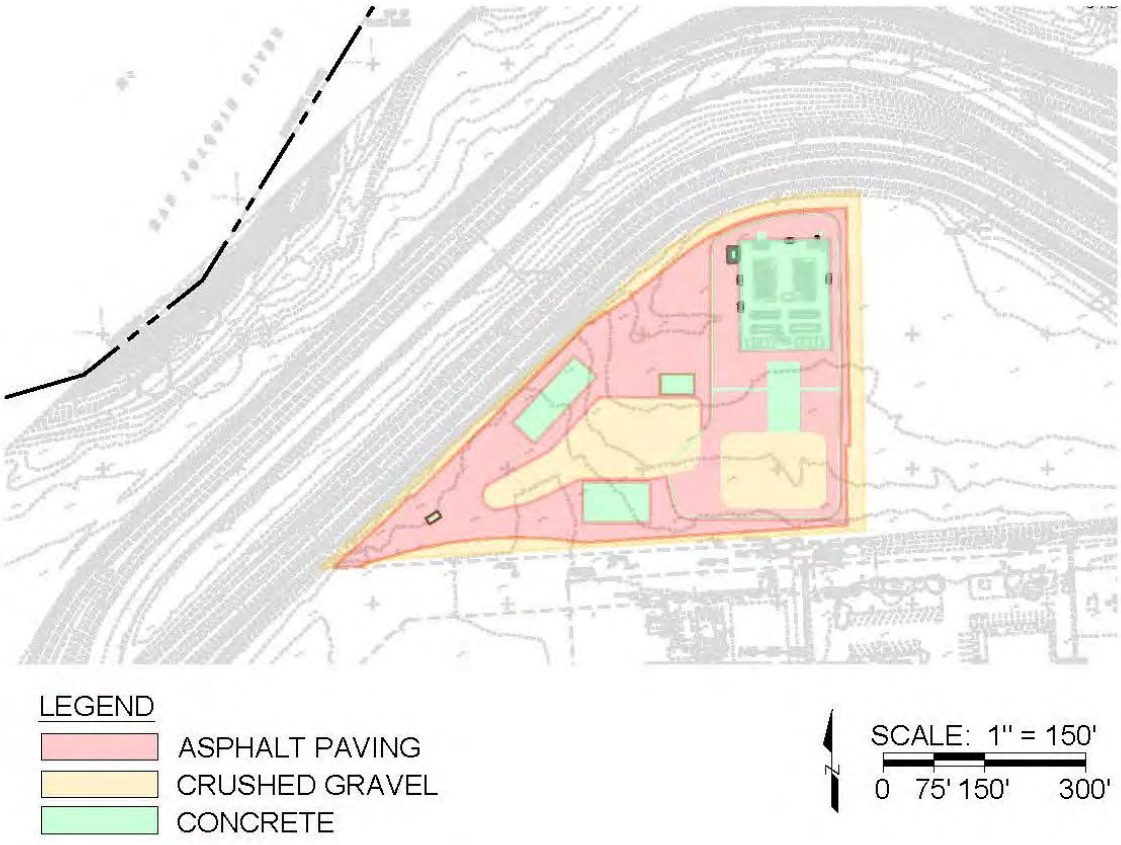
The proposed hydrogen production and filling facility would include truck parking, hydrogen compressors (approximately 120 square feet [sf] each), hydrogen storage pods (up to 160 sf each), and BayoTech's H2-1000 Hydrogen Generation System (500 sf). The equipment compound would be protected with a new solid wall and a vinyl fence with bollards on the other three sides, along with a 3-foot human gate and a 12-foot service gate. A rendering representation of a typical hydrogen production hub is provided in Figure 2.

Figure 2
Rendering of a Hydrogen Production Unit

Proposed project construction activities would include site preparation including excavating, grading, paving, and constructing slabs on grade; installing the modular hydrogen production equipment, lighting, and utility connection; and constructing an operation center (to be used as an office), a retention pond, and installing perimeter fencing and walls.

Although the current topography allows for minimal site preparation during grading, soils would be excavated and recompacted on site in accordance with the 2019 California Building Code to accommodate the proposed industrial equipment and parking areas. Asphalt paving, concrete, and crushed gravel are planned for the approximately 5-acre project site, as depicted on Figure 3. After the hydrogen production and filling facility is built, it would be commissioned and subjected to various quality control tests.

Figure 3
Proposed Paving



Following site preparation, BayoTech would install two H2-1000 Hydrogen Generation Systems and compressors and eight hydrogen storage pods. BayoTech would also construct a 1,100-sf building to be used as an operation center located just outside of the hydrogen production and filling facility's

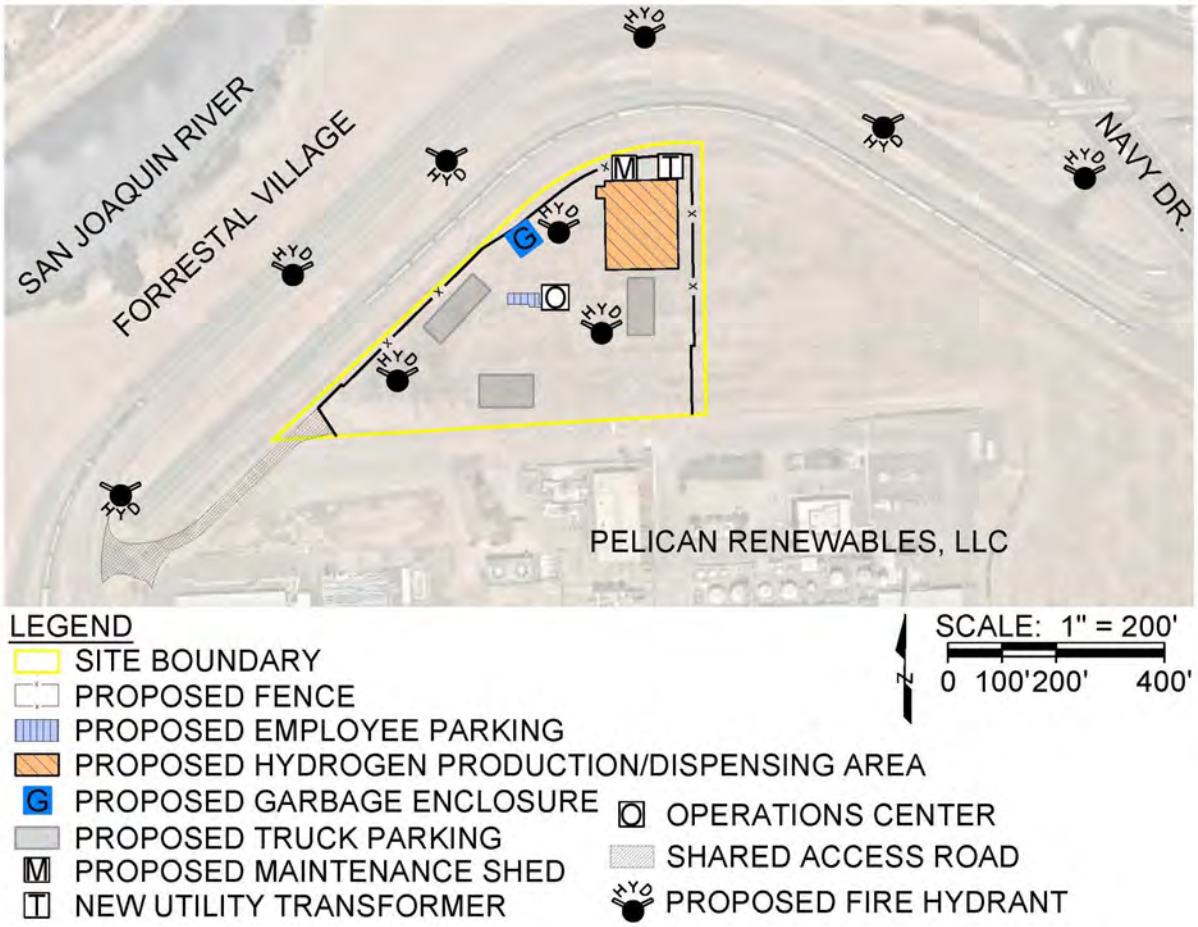
wall. The operation center would be used as an office for facility staff and six employee parking spaces would be constructed adjacent to building (Figure 4).

New utility connections would be installed at the facility, including electrical, water, sanitary, and natural gas, requiring trenching. New water service for the site would be connected from the water main located on Navy Drive. Water use associated with the proposed project is expected for domestic services, water used in operational systems, and fire lines for fire hydrants. A total of two new on-site fire hydrants would be added as well as five new fire hydrants along the existing access road and rail spur. Sanitary sewer and gas services would be routed to a new connection along Navy Drive. A perimeter fence would be installed around the entire project area, with an automatic safety gate for entry with camera. Site security lighting would also be installed at the project site.

In total, it is expected that the various hydrogen production and filling and supporting facilities would occupy an area of approximately 0.5 acre. Site plans showing all project elements are provided in Appendix B. After the hydrogen production and filling facility is built, it would be commissioned and subjected to various quality control tests.

The existing access road that currently serves the Pelican Renewables facility would be shared with BayoTech, as shown in Figure 4.

Figure 4
Proposed Project Elements



Construction of the proposed project is anticipated to commence in summer 2024 and be completed in fall 2024. The anticipated total construction duration is approximately 4 months, sequenced over several phases. Construction equipment would include rubber-tired dozers, tractors/loaders/backhoes, excavators, graders, scraper, cranes, forklifts, generators, welders, air compressors, and paving equipment. Table 2 identifies heavy equipment that would be required to construct the proposed project. Hand tools and other miscellaneous machinery may also be required. The construction schedule shown in Table 2 reflects conservative estimates of construction timing.

Table 2
Proposed Construction Schedule and Equipment

Phase	Construction Phase	Duration	Construction Equipment	Quantity
1	Mobilization	5 days	Forklifts	1
			Generators	1
			Welders	1
2	Site preparation: excavation, grading, paving, and construction of slabs on grade	25 days	Rubber-tired dozers	1
			Tractors	1
			Loaders	1
			Backhoes	1
			Excavators	1
			Graders	1
			Scraper	1
			Forklifts	1
			Generators	1
			Welders	1
			Air compressors	1
3	Civil: trenching, testing, and cover of underground piping/ conduit/ground grid, foundation forms, re-steel assembly, and concrete pours	15 days	Loaders	1
			Backhoes	1
			Excavators	1
			Graders	1
			Forklifts	1
			Generators	2
			Welders	1
			Air compressors	1
			Paving equipment	1
4	Installation of hydrogen-production equipment	14 days	Cranes	2
			Forklifts	1
			Generators	2
			Welders	1
			Air compressors	1
5	Electrical and pipeline interconnections	33 days	Generators	2
			Welders	3
6	Commissioning/ test of system	22 days	No equipment required	2

Phase	Construction Phase	Duration	Construction Equipment	Quantity
7	Demobilization	5 days	Rubber-tired dozers	1
			Tractors	1
			Loaders	1
			Graders	1
			Air compressors	1
			Paving equipment	1

2.4 Proposed Project Operations

The proposed facility would operate 24 hours per day, 7 days per week, 350 days per year and would produce up to 2,000 kilograms per day (kg/day) of gaseous H_2 production (approximately up to 600 standard cubic feet per minute) or 700,000 kilograms (kg) of hydrogen per year, as shown in Table 3. Hydrogen would be produced using BayoTech's H2-1000 Hydrogen Generation System (Photograph 2) through a process that extracts hydrogen from natural gas using steam-methane reforming (SMR). SMR is the largest source of hydrogen production globally; approximately 95% of all hydrogen produced in the United States is by the SMR process (DOE 2024). This process involves reacting hydrocarbons (primarily methane), with steam at high temperature to produce hydrogen. In BayoTech's SMR process, steam reacts with methane (natural gas) to produce hydrogen and a small amount of carbon dioxide (CO_2).

Table 3
Predicted Daily and Annual Throughput

Utility	Daily	Annual
Hydrogen-production and filling	Up to 2,000 kg	Up to 700,000 kg*

*Expected annual throughput derived from daily capacity (2,000 kg/day) and assumed operation (350 day/year)

The natural gas used in the process would be provided from local providers including Pacific Gas and Electric (PG&E) by connecting to existing Port utility infrastructure. PG&E's existing infrastructure would not require any modifications or new infrastructure outside the facility. PG&E would provide its normal floating high-pressure gas service from 47 to 54 pounds per square inch gauge (psig), and then BayoTech would compress it to 150 to 175 psig before entering the H2-1000 Hydrogen Generation System.

Utility usage rates for proposed project operations are shown in Table 4.

Table 4
Predicted Utility Usage

Utility	Usage
Pipeline natural gas	142 to 300 standard cubic feet per minute
Electricity (480 volts)	Up to 33,372 kWh/day Max of 11,680,234 kWh/year*
Potable water (used in H_2 production)	2,993 to 6,118 gpd
Sanitary (used on site)	1,496 to 2,950 gpd

*Assuming 350 annual operating days

New Information:
The maximum daily and annual electricity requirements were erroneously reported in Sections 2 (Project Description) and 3.3.6 (Energy) of the Draft IS/MND. The electricity requirements are consistent with the maximums used in Table 12 in Section 3.3.8 (Greenhouse Gas Emissions) and Appendix C (Air Quality Results and Assumptions) of the Recirculated IS/MND.

Due to its small molecular size, hydrogen has the potential to leak during production. BayoTech will employ several systems to monitor and control leaks at the facility, including the following:

- Use of pressure sensors, which detect pressure loss in production equipment, compression systems, ground storage pods, and filling facilities.
- Use of gas and flame detection, which involves using thermal and optical sensors to detect natural gas or hydrogen leaks and flames.
- Automated control and shutdown systems that isolate the affected system.
- Valve testing to the Canadian Standards Association (CSA)/American National Standards Institute (ANSI) Fuel System Components for Hydrogen Vehicles Hot Gas Valve (HGV) 3.1 standards (2015). CSA/ANSI HGV 3.1 sets requirements for newly produced compressed hydrogen gas fuel system components and a maximum leak rate of 10 normal cubic centimeters per hour (N cc/hr) of hydrogen.

New Information:
Based on public comments, more detailed information about how hydrogen will be stored and managed to limit leaks was added to the Recirculated IS/MND.

Once produced, hydrogen would be stored in 310 liter cylinders. The cylinders' design pressure is 520 bar and hydrogen would be kept at an ambient temperature of 25°C (77°F). Hydrogen, at 520 bar/22°C, is above its critical point[1] and would be 100% gas within cylinders. Cylinders would be stored in groups of 25 in pods, with 8 pods in total. Up to 2,000 kg of hydrogen would be stored on site in fixed storage containers. On-site BayoTech tube trailers, with the cylinders for transport, may also be used to contain and store hydrogen awaiting delivery to customers. All storage would be above ground.

[1] At the critical point, there is no change of state when pressure is increased or if heat is added.

Hydrogen would be dispensed to customers in the area (Photograph 3) by hydrogen transportation trailers owned both by BayoTech and by various customers. Filling the hydrogen into the trailers may take between 1 and 10 hours, and each trailer can carry between 50 and 500 kg of hydrogen. On-site filling operations would take place for up to 16 hours per day, between 6 a.m. and 10 p.m. based upon customer demand, during which time one trained and qualified BayoTech technician at minimum would be present.

New Information:
The Recirculated IS/MND has been updated to clarify staff presence on site during normal operations and filling.

While hydrogen is a nontoxic, lighter-than-air gas, which negates risk from inhalation or pooling, the U.S. Department of Energy strictly regulates the production, storage, and delivery of hydrogen at high pressure due to its flammability. The following staff would be present on site to ensure production, storage, filling and deliveries are conducted in the safest manner possible:

- Operations Technician for local hub maintenance and monitoring
- Drivers making deliveries from filled trailers
- Fill Technicians responsible for filling trailers to cover the hours provided
- Hub Operations Manager to oversee all operations on site

During shift changes, safety inspections, maintenance, and other normal operations, additional BayoTech or contractor personnel may also be on site. The production facility would also be remotely monitored and controlled using industry standard control systems and cloud infrastructure from a purpose-built, state-of the-art control center, located at BayoTech's operational headquarters in Albuquerque, New Mexico. Remote operations are capable of running the plant (including shutdown) in the event there is no one at the site. However, the facility would be fully staffed on site during the working hours of 8:00 a.m. and 5:00 p.m. In addition, there would be one person on site and present while filling, even if it is outside operating business hours.

Control Room Operators would be on a rotating schedule to provide 24-hour-a-day/7-day-a-week coverage in the Control Room. An on-call Control Room Supervisor would be assigned to provide support at all times.

Photograph 2
BayoTech's Hydrogen Facility in Wentzville, Missouri

Photograph 3
Typical Hydrogen Trailer

There would be approximately eight to ten commercial trailers entering and exiting the site daily made up of BayoTech direct deliveries (where BayoTech directly contracts with the recipient and delivers the hydrogen) and deliveries of hydrogen through third-party contractors. BayoTech has entered into a commercial agreement to procure and operate zero-emission trucks. These trucks would be utilized for BayoTech-contracted hydrogen deliveries and transportation needs. However, third-party pickup and transport would also occur. BayoTech trucks and trailers would be parked on site overnight when not in use. Up to three staff vehicles are expected to enter and exit the site daily. Total daily and annual vehicle trips are shown in Table 5. All trucks are assumed to travel north, south, and east via Interstate 5 (I-5) and west on State Route 4 (SR 4) via Navy Drive connectors. The vehicle fleet travel distance assumptions were estimated at 200 miles per day for 30% of the truck trips, 150 miles per day for 50% of the truck trips, and 50 miles per day for 20% of the truck trips.

New Information:
The project description has been updated to include truck travel information consistent with the information in Appendix C (Air Quality Results and Assumptions).

In addition, since the release of the Draft IS/MND, BayoTech has entered into a commercial agreement to procure and operate zero-emission trucks.

Table 5
Predicted Daily and Annual Vehicle Traffic and Hydrogen Loads

Vehicle Type	Vehicle Trips per Day	Vehicle Trips per Year	Hydrogen per Trailer (kg)
BayoTech and customer trailers	8 to 10	2,100 to 4,900	50 to 500
BayoTech staff vehicles (hub techs and drivers)	2 to 3	1,400 to 2,100	NA

3 Environmental Checklist

1. **Project Title:** Port of Stockton BayoTech Hydrogen Production and Filling Facility
2. **Lead Agency:** Port of Stockton
   2201 West Washington Street
   Stockton, California 95203
3. **Contact Person:** Jason Cashman
4. **Project Location:**
5. **Project Sponsor:** Port of Stockton
6. **General Plan Designation:** Industrial (East Complex)
7. **Zoning:**
8. **Description of Project:**
9. **Surrounding Land Uses and Setting:** Surrounding land uses in the Port are industrial. Surrounding land uses in the City's urban core are characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and a variety of other commercial and industrial parcels.
10. **Other Public Agencies Whose Approval Is Required:**
11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the proposed project, involving at least one impact that is potentially significant (after incorporation of mitigation measures) as indicated by the checklist.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

3.2 Determination

On the basis of this initial evaluation:

☐ I find that the proposed subsequent activity 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 to 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.

Signature	Date
Printed Name	For

3.3 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off site as well as on site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

3.3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway?	☐	☐	☐	☒
c.	In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☒	☐	☐

3.3.1.1 Affected Environment

3.3.1.1.1 Regional Setting

The proposed project is located within the City's urban core, which is characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and a variety of other commercial and industrial parcels. The proposed project would occur entirely within Port property, on the Port's East Complex. In most of the areas surrounding the project site, the Port leases property for a variety of industrial uses characterized by storage tanks, railroad facilities, large storage buildings, and stockpiles of various commodities. A residential area, the Boggs Tract neighborhood, is located approximately 1.1 miles to the east of the project site. Regional land uses that affect the visual character include residential infill, agricultural lands, industrial and commercial facilities, BNSF Railway (BNSF) rail lines and right-of-way, and the San Joaquin River (serving industrial, recreational, and natural uses), located approximately 485 feet west of the project site.

3.3.1.1.2 Scenic Highways

California's Scenic Highway Program was created by the State Legislature in 1963 with the purpose of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 284. A list of California's scenic highways and a map showing their locations may be obtained from the California Department of

Transportation's (Caltrans's) Scenic Highway Coordinators (Stockton Port District 2013). There are no designated state scenic highways in the immediate vicinity of the proposed project. The closest scenic highway to the project site is the portion of Interstate-580 (I-580) from I-5 to I-205, which is located 20 miles southwest of the Port.

3.3.1.1.3 Study Area Setting

The proposed project is located on the Port's East Complex; the visual landscape in the study area of both comprise largely industrial facilities, roads and railways, and barren parcels planned for development. As described in Section 2.1.2 and depicted in Photograph 1, the project site is currently vacant and encompasses approximately 5 acres of undeveloped and unvegetated land that is bounded by rail tracks to the north and an adjacent lot to the south. The tallest structures at the hydrogen production and filling facility would be approximately 25 to 30 feet in height. The adjacent lot is leased by Pelican Renewables and contains storage tanks, silos, and other industrial facilities. The height of the tallest structures at Pelican Renewables is approximately 130 feet. Other sites in the vicinity have similar characteristics and industrial uses. The San Joaquin River is located approximately 485 feet west of the site.

3.3.1.1.4 Project Viewshed

Views throughout the project area are largely obscured by industrial developments and busy roadways within the Port, as depicted in Photograph 4. As previously stated, the nearest residential area, the Boggs Tract neighborhood, is located approximately 1.1 miles east of the project site, and the nearest recreational area is located approximately 485 feet west of the project site. The project site is not visible from the nearest residential receptors nor from the nearest recreational receptors.

Photograph 4
View of Project Site from Navy Drive, Looking South

Source: Google Earth 2022

3.3.1.2 Impact Evaluation

A: Would the project have a substantial adverse effect on a scenic vista?

No Impact. There are no applicable regulations governing scenic quality at the project site, and the visual character of the study area would not be changed by the proposed project. The existing visual character in the study area is not considered scenic, nor are there any identified scenic vistas within the project area. Therefore, there would be no impact to scenic vistas.

B: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway?

No Impact. The proposed project would not affect any rock outcroppings or historic buildings along a scenic highway. There are no designated state scenic highways within the project area, and the visual character of the study area (industrial and Port uses) is consistent with the proposed project. Therefore, there would be no impact to scenic resources.

C: In nonurbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less-than-Significant Impact. The proposed project is located within the City's urban core and would not conflict with applicable zoning. There are no applicable regulations governing scenic quality at the project site, and the visual character of the study area would not be changed by the proposed project.

The most prominent permanent visual change resulting from the proposed project would be from installing the hydrogen production and filling station. Although the project site is visible from Forrestal Village Road and may be partially visible from Navy Drive and West Washington Street, proposed site conditions (including the hydrogen production and filling station) would be consistent with the existing visual character of the project site and its surroundings, which includes other industrial features similar or larger in scale.

The proposed project would result in a modest increase in truck calls. Truck operations under the proposed project would be aesthetically similar and consistent with those of existing conditions within the industrialized area. Short-term construction activities would be similarly obscured from view by on-site and adjoining developments. Truck or other vehicle traffic generated by construction would not alter the visual character of the project site and surroundings due to its location within an industrialized area.

While the proposed project would result in a change in the visual character of the project area itself, specifically from changing a vacant site to a fully constructed and operational hydrogen production and filling station, the coherence and unity of the established patterns of landscape features with the adjoining properties would be maintained due to the proposed project's similar aesthetic. Based on the conditions described above, there would be a less-than-significant impact to the existing visual character or quality of the project site from the proposed project.

D: Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Less-than-Significant Impact After Mitigation. The hydrogen production and filling station would be operational throughout the night, and operational and security lighting changes are anticipated as part of the proposed project. Additionally, the proposed project would introduce new sources of glare. Operation of the proposed project without mitigation could result in potentially significant impacts on daytime and nighttime views in the area.

Mitigation Measures: The following mitigation measure would be implemented to reduce potential glare impacts:

- AES-MM-1: Use of full cut-off light shields and/or anti-glare lighting. The proposed project will include construction and design elements that would lessen impacts of light and/or glare, such as full cut-off light shields and/or anti-glare lighting. The following measures shall be required:
  - Any outdoor lighting shall be installed as low as possible to provide light only where necessary.
  - Outdoor lighting requires use of light shields that focus light downward or inward.
  - All exterior lighting shall use long-wavelength lights such as amber and red lamps.
  - Regarding vegetative barriers, the site is not immediately adjacent to any residential receptors. Because vegetation will not further shield lighting, it is not required. The Port will provide BayoTech with information on opportunities for constructing vegetative barriers in other areas of the Port for consideration in developing the CBA.

New Information:
AES-MM-1 was updated to include additional specifications related to light and glare control.

Potential impacts to daytime and nighttime views in the area would be avoided through implementation of mitigation measure AES-MM-1, which includes use of full cut-off light shields and/or anti-glare lighting. With implementation of this mitigation measure, the proposed project would have less-than-significant impact to daytime and nighttime views in the area.

3.3.2 Agricultural and Forestry Resources

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 Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:		**Potentially Significant Impact**	**Less-Than-Significant Impact After Mitigation**	**Less-Than-Significant Impact**	**No Impact**
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b.	Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.3.2.1 Affected Environment

The 2040 General Plan (City 2018a) designates the project area as "Industrial" and the zoning designation of the project area is "Port" (City 2021b). Port areas are designated for the operation of port facilities, including wharves, dockage, warehousing, and related port facilities. Neither the project site nor the immediate surrounding areas currently support agricultural use or forestry resources. The project site is vacant and consists of compacted soil; there is no timberland or forest land on the site. All property surrounding the project area has been developed for industrial or urban

land uses. The project area is zoned for non-agricultural uses, which precludes the lease area from qualifying for Williamson Act contracts.

3.3.2.2 Impact Evaluation

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?

No Impact. The proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, there would be no impact.

B: Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. No farmland exists in the project area. The zoning designation of the project site is Port (City 2021b), and the project area is not subject to a Williamson Act contract. Therefore, there would be no impact.

C: Would the project conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?

No Impact. The proposed project would not conflict with or change any zoning or use of forest land, timberland, or timberland zoned Timberland Production. Therefore, there would be no impact.

D: Would the project result in the loss of forest land or conversion of forest land to nonforest use?

No Impact. No forest lands exist near the project area. Therefore, there would be no impact.

E: Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. No forest or farmlands exist near the project area. Therefore, there would be no impact.

3.3.3 Air Quality

When available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.3.1 Affected Environment

3.3.3.1.1 Environmental Setting

The proposed project is located within the San Joaquin Valley Air Basin (SJVAB), which is bordered by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the South and is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the SJVAB portion of Kern. The climate within the SJVAB is typical of inland valleys in California, with hot, dry summers and cool, mild winters. Daytime temperatures in the summer often exceed 100°F, with lows in the 60s. In winter, daytime temperatures are usually in the 50s, with lows around 35°F. Fog is common in the winter and may persist for days. Winds are predominantly up-valley (from the north) in all seasons, but more so in the summer and spring. Winds in the fall and winter are generally lighter and more variable in direction, but generally blow toward the south and southeast.

Because of the Central Valley's unique physical characteristics, the pollution potential in the area is very high. Surrounding elevated terrain, in conjunction with temperature inversions, frequently restricts lateral and vertical dilution of pollutants. Ozone (O_3), the major component of the Central Valley's summertime smog, is formed via chemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_X) in the presence of ultraviolet radiation or sunlight. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidants, leading to frequent photochemical pollution, or O_3. Tiny particles of solids or liquids (excluding pure water) that are suspended in the atmosphere are known as particulate matter (PM) and are classified according to their diameter in microns as either $PM_{2.5}$ (particulate matter 2.5 microns or smaller in diameter) or PM_{10} (particulate matter 10 microns or smaller in diameter). PM can be emitted directly

(primary PM, such as dust or soot), or can form in the atmosphere through photochemical reactions or gaseous precursors (secondary PM). Much of the Central Valley's ambient PM_{10} and $PM_{2.5}$ is secondary PM, formed in atmospheric reactions of NO_X. Due to the combined air pollution sources within the SJVAB and meteorological and geographical effects that limit dispersion of air pollution, the SJVAB can experience high air pollutant concentrations.

3.3.3.1.2 Regulatory Setting

The U.S. Environmental Protection Agency (USEPA) enforces federal air quality regulations. The federal Clean Air Act of 1970, amended in 1990, authorized the establishment of national health-based air quality standards, set deadlines for their attainment, and established actions required of areas that exceed these standards. Air agencies in areas that exceed the National Ambient Air Quality Standards (NAAQS) are required to develop state implementation plans (SIPs) to show how they will achieve NAAQS. USEPA's responsibility to control air pollution in individual states is primarily to review submittals of SIPs prepared by each state.

In California, the CARB prepares and enforces federally required SIPs to achieve and maintain NAAQS and California Ambient Air Quality Standards (CAAQS), which were developed as part of the California Clean Air Act adopted in 1988. CAAQS for criteria pollutants are equal to or more stringent than NAAQS and include other pollutants for which there are no NAAQS. In addition, CARB is responsible for assigning air basin attainment and non-attainment designations in California. Air basins are designated as being in attainment if the levels of a criteria air pollutant meet CAAQS for the pollutant and are designated as being in non-attainment if the level of a criteria air pollutant is higher than CAAQS.

The SJVAPCD is the air district for SJVAB, which is where the project site is located. SJVAPCD prepares air quality plans for SJVAB to comply with national and state standards that are used to assess potential air quality impacts. The San Joaquin Valley has been in attainment for carbon monoxide (CO) since 1994 and reached attainment for the federal PM_{10} standard in 2008. The entire air basin is classified as non-attainment for the CAAQS 24-hour and annual PM_{10} standards, the CAAQS annual $PM_{2.5}$ standard, and the CAAQS 1-hour and 8-hour O_3 standards. The SJVAB is also classified as non-attainment for the NAAQS 8-hour O_3 standard and the 24-hour and annual $PM_{2.5}$ standards (SJVAPCD 2015a).

The SJVAPCD-recommended thresholds for determining whether projects have significant adverse air quality impacts are provided in its *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015b). Table 6 shows SJVAPCD thresholds. These thresholds are applied separately to construction emissions, permitted operational emissions, and non-permitted operational emissions.

Table 6
San Joaquin Valley Air Pollution Control District Significance Thresholds

Air Pollutant	Construction Emissions Threshold (tons per year)	Permitted Sources Operational Emissions Threshold (tons per year)	Non-Permitted Sources Operational Emissions Threshold (tons per year)
ROG	10	10	10
NO_X	10	10	10
CO	100	100	100
SO_X	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: SJVAPCD 2015a

3.3.3.2 Impact Evaluation

Construction: Construction emissions would be generated by construction equipment, including diesel-powered off-road equipment, trucks used to transport material on-site and limited off-site movements, and worker vehicles associated with construction. Construction is anticipated to occur over a period of 4 months in 2024. Proposed project construction would consist of the following improvements over six phases that would generally occur sequentially: Mobilization; Site preparation; Civil (trenching, testing, and cover of underground piping/conduit/ground grid, foundation forms, re-steel assembly, and concrete pours); Installation of equipment; Electrical and piping interconnections; and Demobilization. There is a scheduled commissioning and testing period prior to the demobilization phase, which does not entail any construction activities other than worker trips.

Based on the construction schedule (Table 2), maximum daily and annual construction emissions were calculated by individual activity and total activity. Construction emissions would result from diesel-fueled construction equipment and on-road vehicles as shown in Table 7, as well as on-road fugitive dust and fugitive dust from material transport. Land-based construction emissions for the proposed project were calculated using California Emissions Estimator Model (CalEEMod) software, version 2022.1.1.21 (CAPCOA 2022). Most off-road equipment is assumed to be Tier 4 final diesel-fueled engine using emission factors from CalEEMod default OFFROAD database. Use of Tier 4 equipment is consistent with California's Off Road Diesel Fueled Fleets Regulation. A full description of construction assumptions, including equipment horsepower ratings, is in Appendix C.

Table 7
Construction Emissions (Tons per Year)

	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Maximum Annual Emissions (2024)	0.08	0.64	1.31	0.005	0.11	0.06
Thresholds	10	10	100	27	15	15
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Operations: As discussed in Section 2.4, BayoTech would install two modular steam methane reformers (SMRs), hydrogen compression equipment, and filling system, which would produce, store, and distribute gaseous hydrogen. The SMR system reacts natural gas and steam, in the presence of a catalyst, to produce synthesis gas (syngas). Downstream of the SMR, two additional small reactors use the water-gas shift reaction to convert the CO in the syngas to CO_2. The final step in the process is a purification step, which uses pressure-swing adsorption to produce 99.97% pure hydrogen (SAE J2719 quality) at a product flow rate of up to 2,000 kg per day. The total energy input, which is based on the higher heating value of the fuel to be burned, is estimated to be approximately 8,000,000 British thermal units (BTU) per hour.

Project operational emissions were evaluated for calendar year 2024. Operational emissions from the proposed project include the permitted stationary H2-1000 units and non-permitted on-road mobile sources, as well as non-permitted area sources related to facility energy use, water use, architectural coating, and consumer products use. Non-permitted mobile sources for the proposed project would primarily be motor vehicles (e.g., automobiles, light-duty trucks, and heavy-duty trucks) traveling to and from the project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels.

Delivery trailers would be used to transport the gaseous hydrogen produced on site to hydrogen refueling stations in the Northern California region.

Permitted Stationary Sources. The steam methane reforming unit (SMR) produces syngas from natural gas and steam feedstock and requires heat, which is supplied by the combustion of natural gas and process gases. Combustion emissions from the SMR were calculated based on the maximum hourly heat input of the unit and vendor-supplied emissions data. Emissions of TACs were calculated based on USEPA's AP-42 for natural gas-fired boilers. The SMR would be equipped with a selective catalytic reduction (SCR) unit for NOx emissions control. The SMR would not otherwise emit to the atmosphere during normal operations. On rare occasions, start-up conditions and up-set conditions would result in syngas releases into a vent dedicated for the control of releases during such start-up, shut-down, and malfunction events.

A small start-up heater, with a maximum heat input capacity of 1 MMBTU per hour, will be used to provide heat to the synthesis reactor system during plant start-ups. The start-up heater will use

natural gas and for air-permitting purposes is conservatively assumed to operate at full capacity year-round. Combustion emissions are calculated based on the maximum heat input capacity of the heater and USEPA's AP-42 emission factors for natural gas-fired furnace.

The proposed facility will operate 24 hours per day, 7 days per week, 350 days per year producing hydrogen through a process that extracts hydrogen from natural gas using steam. Up to 2,000 kg of hydrogen will be stored on site, aboveground. Hydrogen produced at the facility would be distributed by hydrogen transportation trailers.

Non-Permitted Sources: CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating were calculated in the building energy use module of CalEEMod, as described in Section 3.3 of Appendix C.

On-site filling operations would take place for up to 16 hours per day, between 6:00 a.m. and 10:00 p.m. based upon customer demand. Traffic and vehicle activity is expected to contain a variety of authorized trucks and trailers. It is expected that there would be approximately six to eight commercial trailers entering and exiting the site daily. Four to six staff vehicles are expected to enter and exit the site daily, and maintenance vehicles would likely enter and exit the site one or two times per week. Total daily and annual vehicle trips are shown in Table 5.

Mobile sources for the proposed project would primarily be motor vehicles (e.g., automobiles, light-duty trucks, and heavy-duty trucks) traveling to and from the project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Emissions from the mobile sources during operation of the proposed project were estimated using a spreadsheet-based model and emissions factors from the CARB EMFAC and USEPA AP-42 factors for TAC analysis. Vehicle trip lengths were assumed to be up to 200 miles per day for 30% of the truck trips, up to 150 miles per day for 50% of the truck trips, and up to 50 miles per day for 20% of the truck trips and 11.89 miles for passenger vehicle trips (CalEEMod default) for the proposed project. Vehicle emissions occur during start-up, operation (running), and idling, as well as from evaporative losses when the engines are resting. The emissions factors for trucks and passenger vehicles were determined using EMFAC in CalEEMod, which generates emissions factors, expressed in grams per mile, grams per trip, and grams per vehicle per day, for the fleet in a class of motor vehicles within a region for a particular study year. For this analysis, San Joaquin County was selected for the region and calendar year 2024 was selected to represent the proposed project's operational start year. Based on trip generation estimates for light-duty vehicles (23% of all project-related vehicles) and heavy-duty trucks (77% of all project-related vehicles) prepared for the proposed project, the projected 36 average daily trips were used as input in the CalEEMod analysis. The proposed project's mobile trips were conservatively estimated to operate 365 days per year and generated approximately 4,470 vehicle miles traveled per day. Tables 8 and 9 display operational emissions from the permitted and non-permitted sources

that comprise the proposed project. Additional detail on the air quality assessment is located in Appendix C.

Table 8
Operational Emissions from Permitted Sources

Permitted Source	Pollutant Emissions (tons per year)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Stationary H2-1000 Unit #1	0.095	0.095	1.479	<0.01	0.133	0.133
Stationary H2-1000 Unit #2	0.095	0.095	1.479	<0.01	0.133	0.133
Total Permitted Emissions	**0.190**	**0.190**	**2.958**	**<0.01**	**0.266**	**0.266**
SJVAPCD Thresholds	10	10	100	27	15	15
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Table 9
Operational Emissions from Non-Permitted Sources

Non-Permitted Source	Pollutant Emissions (tons per year)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Energy	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile	0.03	2.63	0.63	0.02	0.76	0.23
Total Non-Permitted Emissions	**0.04**	**2.63**	**0.63**	**0.02**	0.76	0.23
SJVAPCD Thresholds	10	10	100	27	15	15
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

A: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. SJVAPCD has established thresholds of significance for criteria pollutant emissions, which are based on New Source Review offset requirements for stationary sources and the NAAQS and CAAQS. These thresholds represent a regional approach to meeting the NAAQS and CAAQS, recognizing SJVAPCD's attainment status, emission sources, and regional geography. Because the SJVAB is an extreme O_3 nonattainment area, stationary sources in SJVAPCD are subject to some of the toughest regulatory requirements in the nation. Emission reductions achieved through the implementation of offset requirements are a major component of SJVAPCD's air quality plans. Therefore, projects with emissions below the thresholds of significance for criteria

pollutants would be determined to not conflict or obstruct implementation of the air quality plans, while emissions exceeding those thresholds would conflict with and obstruct implementation.

Tables 7 through 9 present the direct construction and operational emissions resulting from the proposed project. As shown, construction emissions and operational emissions from permitted and non-permitted sources would all be below significance thresholds.

Therefore, the project would not conflict with or obstruct implementation of the regional air quality plan and impacts would be considered less than significant.

B: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard?

Less-than-Significant Impact. SJVAPCD has developed quantitative criteria to evaluate the significance of air emissions under CEQA. Specifically, a significant impact would occur if implementation of a project would result in emissions that exceed the SJVAPCD-established thresholds shown in Table 6. SJVAPCD's CEQA thresholds represent the emission levels that would result in a direct or indirect project impact, as well as impacts resulting in a considerable cumulative net increase in pollutants. SJVAPCD applies the CEQA thresholds separately to three emission categories: 1) construction emissions; 2) operational permitted source emissions; and 3) operational non-permitted source emissions.

As shown in Table 7, construction emissions would be below SJVAPCD significance thresholds. As shown in Tables 8 and 9, operational emissions would also be below SJVAPCD thresholds in the SJVAB for all air pollutants. Accordingly, impacts would be less than significant.

C: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. A significant impact would occur if a project would emit TACs that could cause a significant increase in health risks, including both carcinogenic and non-carcinogenic risks. A project is considered to have a significant TAC impact under the following circumstances:

- It would result in ground-level concentrations of carcinogenic TACs that would increase the probability of contracting cancer for the maximally exposed individual by 20 in 1 million or more (SJVAPCD 2015b)
- It would increase ground-level concentrations of non-carcinogenic TACs that would result in an acute or chronic hazard index exceeding 1 for the maximally exposed individual receptor (SJVAPCD 2015b)

Impacts to sensitive receptors are typically evaluated in terms of exposure to TACs. CARB classifies diesel particulate matter (DPM) as a TAC and uses PM_{10} emissions from diesel exhaust as a surrogate for DPM. Health effects from carcinogenic TACs are described in terms of individual cancer risk,

which is based on a 30-year lifetime exposure to TACs. More than 90% of DPM is less than 1 micrometer in diameter, and thus is a subset of $PM_{2.5}$. $PM_{2.5}$ comes from a variety of sources, but primarily from the burning of carbon-based fuels, such as gasoline, diesel, and wood. Numerous scientific studies have linked exposure to airborne $PM_{2.5}$ to increased severity of asthma attacks, development of chronic bronchitis, decreased lung function in children, respiratory and cardiovascular hospitalizations, and even premature death in people with existing heart or lung disease (CARB 2023a). Because DPM is a subset of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure.

These effects include premature death, hospitalizations, and emergency department visits for exacerbated chronic heart and lung disease, including asthma, increased respiratory symptoms, and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies. Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly, who often have chronic health problems (CARB 2021).

Proposed project construction activities would result in temporary DPM emissions from the combustion of diesel fuel in off-road construction equipment engines and on-road trucks. Operation of the proposed project would result in DPM emissions from trucks. A health risk assessment was performed to estimate the maximally exposed individual (MEI) cancer risk, chronic hazard index (HI), and acute HI for residential, off-site worker, and school receptors as a result of emissions from the proposed project during operation on sensitive receptors proximate of the project site. Results of the construction and operational human health risk assessments are presented in Table 10. As shown, the proposed project would be under applicable thresholds and would not result in acute or chronic health risk. Accordingly, impacts would be less than significant.

Table 10
Incremental Health Risk Construction and Operations

	Maximum Cancer Risk (Risk per Million)	Maximum and 8-Hour Chronic Risk (Hazard Index1)	Maximum Acute Risk (Hazard Index1)
Construction			
30-Year MEI Residential Receptor	1.93x10-8	1.10x10-2	N/A
25-Year MEI Off-Site Worker Receptor	1.41x10-7		
9-year MEI School Receptor	1.19x10-8	1.34x10-5	
Operations			
30-Year MEI Residential Receptor	$3.39x10^{-10}$	1.70×10^{-5}	5.48×10^{-6}
25-Year MEI Off-Site Worker Receptor	$4.65x10^{-9}$		
9-year MEI School Receptor	$1.54x10^{-10}$	6.75×10^{-7}	1.25×10^{-6}
Threshold	20.0	1.0	1.0
Significant	No	No	No

Note:
1. Excess lifetime cancer risk and chronic hazard index from operational sources represent the incremental increase in activity expected as a result of the proposed project (i.e., future with proposed project compared to future without proposed project).
2. HI is the unitless ratio of the estimated long-term level of exposure to a toxic air contaminant for a potential MEI to its reference exposure level.

D: Would the project result in other emissions (such as those leading to odors) affecting a substantial number of people?

Less-than-Significant Impact. SJVAPCD's CEQA guidance defines a significant odor impact as one that creates objectionable odors affecting a substantial number of people. SJVAPCD's guidance lists facility types that commonly produce odors and the separation distance from sensitive receptors (typically 1 mile) needed to prevent significant odor impacts (SJVAPCD 2015a). As noted in SJVAPCD's guidance, the list of facility types is not meant to be all-inclusive. Consequently, SJVAPCD recommends that all potential odor sources be evaluated in additional detail if they are located within 1 mile of sensitive receptors. The predominant winds are from the northwest, west-northwest, and west. The nearest residences in this predominant wind directions are distant from the project site. Specifically, the community to the southeast is nearly 1.7 miles away, and the community to the east is 1.1 miles away. While residences to the north and northwest and the single residence to the southwest are closer (0.6 miles and 0.5 miles, respectively), those locations would be located downwind of the project site on a very infrequent basis and are therefore unlikely to experience nuisance odors from the proposed project.

During construction, diesel exhaust from construction equipment could generate odors. However, several pieces of construction equipment would need to operate concurrently in a relatively small area to generate a constant plume of diesel exhaust that could cause objectionable odors, and these circumstances would not occur as part of the proposed project. Construction would occur over a broad area, and construction equipment would not all operate at the same time. During operation, diesel exhaust produced by trucks could generate odors, but not at a significant level. The hydrogen production and filling facility would not produce or emit odorous chemicals, so the project site is not expected to be a large source of objectionable odors.

The SJVAPCD has identified some common types of facilities, such as petroleum facilities, chemical manufacturing, wastewater treatment facility, sanitary landfills, etc., that have been known to produce substantial odors. Specifically, feed lots and dairies, which can emit high concentrations of ammonia, are assigned a screening distance of 1 mile. All sensitive receptors are more than 1 mile away and, therefore, would not be affected by odors consistent with the findings of the Draft IS/MND. No additional analysis is required. Construction and operational odors likewise would not affect a substantial number of people. Therefore, this impact is considered to be less-than-significant.

3.3.4 Biological Resources

	Would the project:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
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?	☐	☒	☐	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

3.3.4.1 Affected Environment

Biological conditions occurring in the project area were observed during a reconnaissance survey conducted on August 25, 2022, to assess habitat conditions and evaluate the area's potential to support special-status species or sensitive habitats (Anchor QEA 2022). A search of the California Natural Diversity Database (CNDDB) was conducted to identify recorded special-status species occurrences within the U.S. Geological Survey Stockton West 7.5-minute quadrangle and surrounding quadrangles (Terminous, Lodi South, Waterloo, Stockton East, Manteca, Lathrop, Union Island, and Holt; CDFW 2022).

3.3.4.1.1 Habitat Communities

The project site is located within a highly developed and industrialized area and is surrounded by existing industrial developments characterized by storage tanks, industrial buildings, concrete surfaced storage or staging areas, stockpiles of various commodities, roadways, and rail lines. The property is bounded by Forrestal Village Road on the north, west, and south and by Navy Drive on the east; train tracks also encircle the northern part of the property. The site is currently vacant and encompasses approximately 5 acres of undeveloped, graded land. It is regularly maintained, and was not vegetated at the time of the survey with the exception of occasional non-native red-stemmed fillaree (*Erodium cicutarium*; Photographs 5 and 6). Recent management of the site appears to be light grading as evidenced by bare soil, rocks, and debris. Based on Anchor QEA biologists' knowledge of plants commonly observed in the area and review of aerial photography, the site is presumed to support non-native annual grasses and forbs during the growing season. Recent aerials support this assumption, and it can be observed that the site supports an early spring germination of weedy plant species, followed with mowing as part of annual site management. Plant species commonly observed in this area consist of rip-gut brome (*Bromus diandrus*), wild oat (*Avena fatua*), black mustard (*Brassica nigra*), yellow-starthistle (*Centaurea solstitialis*), and others. This area is geographically isolated from other wildlife habitats by train tracks and roadways with no direct corridors between it and other potential wildlife habitat.

Photograph 5
View of the Project Site Looking South, August 2022

Photograph 6
Non-Native Red-Stemmed Fillaree on the Project Site, August 2022

The nearest features (scattered trees and ruderal vegetation) that may provide notable wildlife habitat are over 400 feet north of the project site at the Stockton Police Department Training Facility/Police Range. The San Joaquin River is located approximately 485 feet west of the project site. Stormwater from the on-site uplands drains into the local stormwater system, which consists of a wide swale following the north side of the site. The swale is approximately 10 to 20 feet wide and tributary to a culvert on the west side of the site.

3.3.4.1.2 Wetlands and Jurisdictional Waters

There are no known wetlands or jurisdictional waters within the project site. While the National Wetlands Inventory maps historic wetlands on the southern portion of the project site (USFWS 2022), these wetlands were filled at some time in the past and the National Wetlands Inventory maps do not reflect current conditions at the site. The proposed project does not include any in-water work and is located entirely within upland areas. The nearest water feature is the San Joaquin River, which is located approximately 485 feet from the project site.

3.3.4.1.3 Special-Status Wildlife Species

The CNDDB identifies 24 special-status (candidate, threatened, or endangered under the federal Endangered Species Act [ESA] or California Endangered Species Act [CESA], state species of special

concern, or CDFW fully protected species) wildlife species within the study area, as identified through a search of the proposed project quadrangle and eight surrounding quadrangles (Appendix D; CDFW 2022). Potential species occurrence was determined based on habitat requirements and on-site conditions.

The project site's developed condition and location within a highly industrial and urban area precludes the presence of most terrestrial special-status species, although habitat surrounding the project site may be marginally suitable for some transitory species adapted to disturbance areas. This includes burrowing owl (*Athene cunicularia*; state species of special concern) and select Migratory Bird Treaty Act (MBTA)-protected bird species. None of the fish species or aquatic amphibian and reptile species identified in Appendix D have the potential to be present at the project site but would likely be present in or adjacent to the San Joaquin River.

Burrowing owl. The burrowing owl is a year-round resident of open spaces, such as grasslands and agricultural fields, in the Central Valley. Burrowing owls generally prefer areas of flat open ground with very short grass or bare soil and are often found on airports, golf courses, vacant lots, industrial parks, and other open areas. Nests are typically found in abandoned burrows of small mammals, predominantly ground squirrels, and occasionally within culverts and other structures. Although there are no visible mammal burrows on the project site, and the site lacks sufficient foraging habitat to support nesting populations of burrowing owl, there is potential for owl burrows around the levees along the perimeter of the San Joaquin River and in the agricultural fields to the south and west. Any occurrence of this species within the project area would likely be limited to dispersing or transitory individuals that may forage within grassland habitat or other areas with low vegetation nearby.

Migratory Bird Treaty Act-protected species. The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. The project area is located in an industrial environment and subject to constant anthropogenic disturbance, including regular discing of vegetation, and would only potentially provide foraging habitat for migratory bird species. Habitat adjacent to the project along the San Joaquin River could provide nesting opportunities for some migratory bird species. Other species protected under the MBTA may occur transiently throughout the year.

3.3.4.1.4 Special-Status Plant Species

There are 22 plant species considered rare, threatened, or endangered by the California Native Plant Society (CNPS; a CNPS Rank 1 or 2 species) with recorded occurrences in the vicinity of the project site, as identified through a search of the proposed project quadrangle and eight surrounding quadrangles (Appendix D; CDFW 2022). Of these 22 species, three are state or federal endangered:

large-flowered fiddleneck (*Amsinckia grandiflora*; federal and state endangered), palmate-bracted bird's-beak (*Chloropyron palmatum*; federal and state endangered) and Sacramento-San Joaquin River Delta (Delta) button-celery (*Eryngium racemosum*; state endangered). Due to the lack of suitable habitats within the project area, none of the special-status plant species with recorded occurrences have the potential to occur within the project site.

3.3.4.2 Impact Evaluation

A: Would this project 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?

Less-than-Significant Impact After Mitigation. The proposed project would be constructed on a vacant lot, which does not have habitat suitable for special-status species. Vegetation removal, if any, would be limited to grubbing sparse ruderal vegetation with little or no habitat value. Permanent habitat loss would be marginal and limited to low-habitat-value areas next to existing, active rail lines within the industrialized Port area.

Construction has the potential to result in accidental spills, if improperly managed. Various contaminants, such as fuel oils, grease, and other petroleum products used in construction activities, could be introduced into nearby waters (e.g., the San Joaquin River) through surface runoff. Contaminants may be toxic to wildlife. Because the proposed project would include more than 1 acre of ground disturbance, BayoTech would be required to obtain an NPDES Construction Stormwater General Permit, which would address stormwater and site control measures.

Features away from the project site may have habitat value to special-status species (e.g., nearby trees and the San Joaquin River), but these features would not be directly affected by the proposed project. While unlikely, MBTA-protected species may be present at the project site. Operation of the proposed project is not anticipated to generate significant levels of noise above existing conditions or any other effects that would adversely impact special-status species or habitats. The addition of an anticipated 10 vehicles and trucks per day is unlikely to result in direct or indirect adverse effects to terrestrial species or habitats.

The following mitigation measures would be implemented to reduce potential construction and operational impacts to off-site sensitive habitats and species from spills or polluted runoff:

- **BIO-MM-1: Stormwater management controls.** Standard construction best management practices—including but not limited to use of storm drain inlet filters, erosion control (e.g., straw wattles), and maintenance of spill control kits—will be implemented during construction to control or respond to spills or other potential sources of construction-related pollution.

- **BIO-MM-2: Soil management plan (SMP) implementation.** Operation of the proposed facility will include implementation of the facility SMP, which includes plans for leak prevention, control, and management. As a component of the SMP, BayoTech will provide annual California Environmental Reporting System submittals detailing quantities and management of potentially hazardous materials at the proposed facility.
- **BIO-MM-3: Obtain coverage under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) or conduct nesting bird surveys.** To avoid impacts on potentially present special-status species, the proposed project will apply to obtain coverage under the SJMSCP. The SJMSCP is a voluntary program that allows for participants to be issued streamlined ESA and CESA approvals and to mitigate for impacts to certain special-status species. BayoTech will submit an application for coverage to San Joaquin Council of Governments (SJCOG), the agency that administers the SJMSCP, within 60 days of project construction. SJCOG will review the proposed project, prepare a staff report, and submit the report to the SJMSCP Habitat Technical Advisory Committee, which determines whether the proposed project will be covered under the SJMSCP. Assuming the proposed project is approved for coverage, a SJCOG biologist will conduct a site visit to determine which incidental take minimization measures (ITMMs) included in the SJMSCP are applicable to the project. SJCOG will then execute a final summary of applicable ITMMs for the proposed project. ITMMs will include surveys, monitoring, and applying temporary construction buffers, if determined appropriate by SJCOG. BayoTech will implement all required ITMMs identified by the SJCOG. Ground disturbance will not occur until the ITMMs have been satisfied.
  - If the proposed project is unable to obtain coverage under the SJMSCP, BayoTech will implement alternatives to SJMSCP coverage that are consistent with CDFW's standard requirements, including surveys and avoidance measures. If equipment staging, site preparation, or other project-related construction work is scheduled to occur between February 1 and September 15 (the nesting season of protected raptors and other avian species), a qualified biologist will conduct a pre-construction survey of the project area for active nests within 7 days prior to starting project construction. The minimum survey area will be 250 feet for passerines, 500 feet for small raptors, and 1,000 feet for larger raptors. Surveys will be conducted during periods of peak activity (early morning or dusk) and be of sufficient duration to observe movement patterns. If a lapse in project-related work of 15 days or longer occurs, another survey will be performed before construction is re-initiated. If any active bird nests are found, a buffer around the nest will be established by the biologist in coordination with CDFW. The buffer area will be fenced off from work activities and avoided until the young have fledged, as determined by the biologist. The biologist will monitor the active nest until the young have fledged, for at least 2 hours per day when project activities are occurring to

observe the behavior of the nesting birds. If the birds show signs of disruption to nesting activities (e.g., defensive flights or vocalizations directed toward project personnel, standing up from a brooding position, or flying away from the nest), the buffers will be expanded by the biologist until no further interruptions to nesting behavior are detectable.

Through implementation of these mitigation measures, significant impacts to off-site species and habitats birds would be avoided. Accordingly, the proposed project would result in less-than-significant impacts.

B: Would this project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less-than-Significant Impact After Mitigation. There are no on-site riparian habitats or sensitive natural communities within the project site and no in-water work is required as part of the proposed project. As noted, various contaminants, such as fuel oils, grease, and other petroleum products used in construction activities, could be introduced into nearby waters (e.g., the San Joaquin River) through surface runoff and or in the case of spills. Additionally, while unlikely, nesting birds may use the project site. Potential impacts to sensitive off-site habitats would be avoided through implementation of mitigation measures BIO-MM-1 and BIO-MM-2, which include construction and operational measures to control spills and runoff. Potential impacts to nesting birds would be avoided through implementation of mitigation measure BIO-MM-3. With implementation of these mitigation measures, the proposed project would have less-than-significant impacts on riparian habitats or sensitive natural communities.

C: Would this project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no wetlands within or near the project site. Accordingly, there would be no impact.

D: Would this project 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?

No Impact. Although the project area is along the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America, the developed nature of the surrounding area and barren nature of the project area likely preclude migratory bird species from using the project site as a stopover during their migration. The proposed project would have no impact on the movement of native wildlife.

E: Would this project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The proposed project would not require tree removal and would not conflict with the Stockton Heritage Tree Ordinance. There are no other local policies or ordinances for protecting biological resources that are applicable to the project site. Therefore, the proposed project would not conflict with local policies or ordinances protecting biological resources, and there would be no impact.

F: Would this project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less-than-Significant Impact After Mitigation. The proposed project would not conflict with the SJMSCP (San Joaquin County 2000). In fact, as outlined in BIO-MM-3, the proposed project would seek coverage under the SJMSCP. Habitat at the project site is marginally suitable for SJMSCP-covered species. Potential impacts to waterbodies and habitats would be avoided through implementation of mitigation measures BIO-MM-1 and BIO-MM-2, which include construction and operational measures to control spills and runoff, and BIO-MM-3, which protects ground-nesting birds, including those covered under the SJMSCP. With implementation of these mitigation measures, the proposed project would either directly or substantively comply with the requirements of the SJMSCP and impacts would be less than significant.

3.3.5 Cultural Resources

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c.	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.3.5.1 Affected Environment

The Delta has probably been occupied since the late Pleistocene and early Holocene, beginning approximately 11,000 years ago. However, alluvial processes have likely erased most early archaeological sites. The earliest documented sites in the region date to approximately 9,000 years ago and are thought to have been mobile communities focused on hunting and fishing (Chartkoff and Chartkoff 1984; Milliken et al. 2007). Warm and dry conditions in the mid-Holocene (approximately 7,000 to 3,000 years ago) are associated with a change in subsistence focus toward plant gathering; millingstones are common during this period, though communities are still thought to have been fairly mobile (Fagan 2003). Later in this period, a trend toward sedentary communities and economic diversification emerges. The late Holocene is characterized by a continued increase in economic diversity and sociopolitical complexity, with emphasis on long-distance trade (Chartkoff and Chartkoff 1984; Moratto 1984). Cultures from this era correspond with ethnographically described cultures.

The project area is in the traditional territory of the Yokuts Tribe and may also have been used or settled by Plains Miwok and Wintun peoples. Yokuts communities were organized into multiple tribes united by a common language (Golla 2007). They lived throughout the San Joaquin Valley and relied on the region's rich fishing and hunting resources (Kroeber 1976). Native American communities were severely impacted by European contact (Milliken 1995). However, Yokuts people have endured and are now members of several federally recognized tribes.

The earliest European contact in the region dates to the late 1500s and was characterized by the establishment of Spanish missions and pueblos. Trappers from the Hudson's Bay Company also settled in the area that would become Stockton in the early 1800s, founding what is still known as French Camp (Wood 1973). The new Mexican government took control of California in 1822 and began to distribute lands to private owners. In 1842, German immigrant Charles Weber passed through what would become Stockton; he settled there and established a store in 1847 (Wood 1973).

The gold rush that began in 1848 spurred a boom in the Stockton area, and the City incorporated in 1850. Hundreds of vessels, from paddlewheelers to barks, plied the area serving miners. The Swamp Land Act of 1850 (also known as the Overflow Land Act) allowed for the transfer of wetlands from federal to state ownership, which began the process of reclaiming lands through drainage, dredging, levee construction, and fill placement (Garone 2011).

Prior to historic landmaking, the current Port vicinity would have been seasonally inundated (it is mapped as historically "tidal freshwater emergent wetlands" [SFEI-ASC 2018). There is evidence of industrial and land development in the vicinity since at least the early 1900s, which intensified through the mid to late twentieth century. By 1913, levees had been constructed that channelized the San Joaquin River and allowed for landmaking through filling of adjacent uplands.

Dredging to create the Stockton Deep Water Ship Channel began in 1930; the original navigational depth of 15 feet was deepened to 26 feet and the course was straightened. A rail line was constructed in 1932 through the area that would become the East Complex to Rough and Ready Island (now known as the Belt Line rail). The Port was founded immediately afterward, in 1933. The original Port area was the northern and western parts of what is now the East Complex.

The Port became part of the Stockton Ordinance Depot during World War II. After the war, the military began transferring parcels back to the Port, a process that was complete on the East Complex by 1956 (CMM 2016). The transfer included lands on the south and east sides of the East Complex that were previously agricultural and not part of the Port before the war. Industrial development intensified through the mid to late twentieth century.

The U.S. Navy purchased nearly the entirety of Rough and Ready Island in 1944 to serve the expanding needs of the Pacific theater in World War II. The property became the Naval Supply Annex Stockton. Between 1943 and 1946, the island's northern shoreline was straightened to its current configuration. This change resulted from construction of the Stockton Deep Water Ship Channel, which was dredged to a depth of 30 feet. Initial Naval development included expanding the Belt Line Railway and building a street grid out from the existing main road (County Road 403, now Fyffe Avenue). The majority of the base, including warehouses, housing, medical facilities, and utilities infrastructure, was constructed between August 1944 and June 1945. Prisoners of war were used as labor in constructing the base from spring 1945 onward and were said to have laid the drainage ditch system (Uribe & Associates 1996). Less than 2 months after the Naval Supply Annex Stockton was commissioned, the war ended on August 25, 1945. Immediately post-war, the facility continued to operate, primarily processing returning equipment and supplies. Activity declined at the facility thereafter, with two exceptions: operations during the Korean War in the early 1950s, and the operation of the Naval Communications Station after 1960. The Department of Defense property on Rough and Ready Island was approved for transfer to the Port in 1996 and became the West Complex as property was conveyed to the Port between approximately 2000 and 2010. The

remaining buildings and infrastructure of the Naval Supply Annex Stockton and the Naval Communications Station form the Naval Supply Annex Stockton National Historic District, which has been determined eligible for listing in the National Register of Historic Places.

Aerial photographs indicated a variety of activities in the project area after the transfer to Port ownership. In 1957, part of the project area was forested, with the northern portion cleared for what may have been dredge spoils deposition or materials sourcing. That activity was still underway in 1967 and expanded to include the entire project area. Evidence of continued spoils deposition and/or earth-moving activities is evident until construction of the existing rail spur in 2007 and 2008.

Findings from geotechnical studies at various locations around the Port are consistent with the area's environmental and cultural history. On the East Complex at Dock 2, geotechnical investigations revealed 5.5 to 10 feet of artificial fill (Kleinfelder 2019). On the West Complex, investigations for a nearby project to replace the Navy Drive Bridge found 15 feet of fill above stratified clays and silty sands (Kleinfelder 2014). These sediments (possibly native sediments but more likely dredge spoils) are approximately 1 to 3.5 feet above sea level. Native sediments would have been seasonally inundated.

According to a search of the California Historical Resources Information System (CHRIS) conducted in July 2022, there are no cultural resources recorded in the project area. There is one resource within a mile, a historic debris scatter approximately 0.75 mile southeast of the project area (P-39-5238). Four cultural resources surveys have been conducted that include the project area; none located cultural resources in or near the project area (USACE 1980; Shapiro and Shapiro 1997; URS 2008a, 2008b).

3.3.5.2 Impact Evaluation

A: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. The project site is currently vacant and does not contain any structures or historical resources. There would be no demolition or modification of any structures for the proposed project, and no changes to historical resources are expected. Accordingly, there would be no impact.

B: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less-than-Significant Impact. No archaeological resources have been identified on the project site, and there is a low potential to encounter archaeological resources, as the soils are previously disturbed and heavily filled. However, because the proposed project includes minor ground disturbance and excavation of on-site soils during site preparation, archaeological materials could be disturbed during construction. If archaeological materials are encountered during construction, the proposed project would comply with state and federal requirements regarding identification, evaluation, and mitigation of impacts to significant archaeological sites, as well as consultation with

tribes and agencies. This includes CEQA Guidelines Section 15064.5(f), which requires implementing "provisions for historical or unique archaeological resources accidentally discovered during construction." For these reasons, impacts would be considered less than significant.

C: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less-than-Significant Impact. No indication of human remains or other associated archaeological materials have been identified on the project site. If human remains are encountered during construction, the proposed project would comply with state and federal requirements regarding disposition of human remains and consultation with tribes and agencies.

3.3.6 Energy

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.3.6.1 Affected Environment

Due to the size of its population, California's energy consumption ranks as the second highest in the United States, with an estimated total consumption of 7,802 trillion BTU in 2020. The state's energy consumption per capita, however, ranks as the fourth lowest in the country because of its mild climate and policies related to energy efficiency (USEIA 2022). California ranks as 11th in the country as a producer of energy, producing 2,190 trillion BTU in 2020. In 2021, California was the highest producer of electricity from solar, geothermal, and biomass energy in the country and the fourth highest producer of hydroelectric power generation—down from second in 2019, due in part to drought and increased water demand (USEIA 2022). California was the seventh-largest producer of crude oil among the 50 states, and, as of January 2021, it ranked third in crude oil refining capacity (USEIA 2022). Transportation accounts for the largest share of the state's energy consumption and accounts for two-fifths of the state's total end-use sector energy consumption. The industrial sector is the second-largest energy consumer in California and accounts for almost one-fourth of state end-use energy consumption. The commercial sector and the residential sector each account for slightly less than one-fifth of the state's total end-use sector energy consumption (USEIA 2022).

Electricity demand, usage, and production in the state is projected to increase in the near future due to population growth and other factors, including climate change (CEC 2020~~b~~). PG&E is the main utility provider for San Joaquin County. Utility-provided energy demand in San Joaquin County has steadily increased and is experiencing the fastest growing customer demand in PG&E's Stockton Division due to new residential development and growth in the agriculture and industrial sectors (PG&E 2016). In 2022, total electricity consumption in the County was estimated at 3,680.67 gigawatt hours (CEC 2022a). PG&E has a variety of renewable and non-renewable sources.

3.3.6.2 Regulatory Setting

Energy in California is regulated by a series of bills, regulations, and executive orders aimed at decreasing total energy demand and increasing the availability and production of renewable energy for all energy needs.

California's Renewable Portfolio Standards program was established in 2002 by Senate Bill (SB) 1078 with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The Clean Energy and Pollution Reduction Act (SB 350), enacted in 2015, increased California's renewable electricity procurement goal from 33% by 2020 to 50% by 2030. In addition, SB 350 requires California to double statewide energy efficiency savings in electricity and natural gas end use by 2030 and authorizes utilities to undertake transportation electrification. SB 100, enacted in 2018, further accelerates the state's Renewable Portfolio Standards to 60% by 2030 and will require that the next 40% comes from zero-carbon sources of electricity by 2045. SB 10 requires that 100% of all electricity in California must be obtained from renewable and zero-carbon (such as solar and wind energy) resources by December 31, 2045. SB 100 also requires the Energy Commission, California Public Utilities Commission (CPUC), and CARB to use programs under existing laws to achieve 100% clean electricity and issue a joint policy report on SB 100 by 2021 and every 4 years thereafter.

California's LCFS Program requires a reduction in the carbon intensity of transportation fuels that are sold, supplied, or offered for sale in the state through 2030. The fuels regulated by the LCFS Program include natural gas, electricity, hydrogen, gasoline mixed with 10% corn-derived ethanol or higher, biomass-based diesel, and propane. The State is also accelerating the transition to electric vehicles. In 2022, CARB approved a rule requiring 100% of new car sales in California to be ZEVs by 2035. Hydrogen fuel from steam methane reformation, such as that produced by the proposed Project, is eligible for LCFS credit generation via fuel pathway. Credit values are calculated accounting for the carbon intensity of the mode of production compared to the fuel it would replace; therefore, assigned LCFS credits represent a net reduction in CO_2 from fuel generated or dispensed in the state.

The California Green Building Standards Code (CALGreen; 24 CCR Part 11) is a State-mandated green building code with the purpose of improving public health, safety, and general welfare through

enhanced design and construction of buildings using concepts that reduce negative impacts, promote those principles that have a positive environmental impact, and encourage sustainable construction practices. First issued in 2010, the CALGreen was adopted to address planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The standards are updated every 3 years. The 2022 CALGreen nonresidential updates include significant changes to electric vehicle sections to support the implementation of California governors' executive orders (EO) to achieve the goals of having over 1.5 million ZEVs on California roadways by 2025 (EOB-16-2012), 5 million ZEVs on California roadways by 2030 (EO B-48-2018), and in-state sales of passenger cars and trucks will be 100% ZEVs by 2035 (EO N-79-20). Other key 2022 CALGreen amendments include: updating clean air vehicle parking space percentages in the voluntary tiers; relocating regulations for thermal insulation, acoustical ceiling, and wall panels from voluntary to mandatory; and moving thermal insulation Tier 2 regulations to Tier 1.

The 2016 San Joaquin County General Plan includes the following energy conservation and efficiency measures (San Joaquin County 2016):

- Goal NCR-5 of the plan is to "increase energy independence through the use of renewable energy sources and improved energy conservation and efficiency."
- Policy NCR-5.2 of the plan specifies that for alternative energy, the "County shall encourage residents, businesses, and energy providers to develop and use alternative, renewable energy sources, including but not limited to, biomass, solar, wind, and geothermal."

Local policies pertaining to energy include Policy LU-5.4 of the 2040 General Plan (City 2018a):

- **Policy LU-5.4:** Require water and energy conservation and efficiency in both new construction and retrofits.
  - Action LU-5.4B: Require all new development, including major rehabilitation, renovation, and redevelopment, to incorporate feasible and appropriate energy conservation and green building practices, such as building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.

The Port has developed and implemented a *Renewable Portfolio Standard Procurement Plan* (Port 2016). In the plan's most recent iteration, the Port determined the most efficient and cost-effective approach to meeting these standards is through continued purchase of sufficient State-approved renewable energy products from the active California market. For the compliance period from 2021 through 2030, the Port would determine and implement the most cost-effective options for complying with newly codified laws (Port 2016). Other steps that the Port is undertaking to improve energy efficiencies includes purchasing zero-emission electric vehicles, replacing diesel-powered equipment with cleaner electric models, and completing an energy audit to identify areas

where energy consumption can be reduced (Port 2022a). The Port also offers its tenants financial incentives to install high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction beyond baseline energy performance, which include State-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards (Port 2020).

3.3.6.3 Impact Evaluation

A: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact. Constructing and operating the proposed project would use equipment that consumes fossil fuels but would not require any unusual or excessive equipment or practices compared to projects of similar type and size. Energy would be used during construction of the proposed project, including diesel fuel (primary fuel) and gasoline, as well as limited use of electricity. Fuel consumption during construction would be temporary (4 months).

Table 4 in Section 2.4 shows the annual energy consumption in terms of expected daily fuel use (natural gas) and electricity. The proposed facility would require energy to power lights and equipment, including computers, machineries, and heating and cooling units. In addition, the hydrogen production process would use natural gas and electricity. As discussed in Section 2.4, the proposed project would obtain energy from local providers by connecting to existing Port power infrastructure, including electricity and natural gas from PG&E. As noted in Table 4, the proposed project would generate a daily demand of up to 33,372 kilowatt hours (kWh) and a maximum annual demand for 11,680,234 kWh of electricity and 142 to 300 standard cubic feet per minute (1,630,610 therms annually) of natural gas. In contrast, in 2022, San Joaquin County non-residential use consumed 3,680 million kWh of electricity and 96.82 million therms of natural gas [20,679 scfm; or 26,526 MMBtu/day] (CEC 2022a, CEC 2022b). The proposed project would represent a fraction of the County's total use of electricity and natural gas. Over time, the proposed project is also anticipated to transition to a mixture of natural gas and renewable natural gas (RNG), a purified form of biogas generated by the decomposition of waste. This would reduce the fossil fuel demand of the hydrogen production units relative to the fraction of natural gas replaced by RNG.

New Information:
The annual electricity and natural gas consumption rates were updated in the Recirculated IS/MND to be consistent with Section 2.4.

The electricity demand presented in the Draft IS/MND was erroneously listed as 1,220 kwh per day and up to 445,300 kwh annually.

The daily natural gas rate presented in the Draft IS/MND was erroneously listed as 122 to 280 standard cubic feet per minute.

The hydrogen production and filling station would meet all required measures of CALGreen, which requires sustainable building practices as part of all new buildings in California. Mandatory requirements involve water and energy efficiencies, indoor air quality, and the use of sustainable building materials. The proposed design would also include energy-efficient lighting fixtures.

Because the proposed project would be designed and constructed to comply with CALGreen and would comply with other state and local plans and policies, the energy consumption from the proposed project would not be wasteful, inefficient, or unnecessary and thus would be less than significant. Additionally, the following mitigation measures would be implemented to address energy consumption and reduce GHG emissions in compliance with the 2040 General Plan:

- **ENG-MM-1: Truck idling reductions**. BayoTech will require trucks to minimize idling time to 2 minutes while on terminal. Truckers will be required to shut down trucks while waiting more than 2 minutes while on the terminal or BayoTech will implement programs, such as appointment systems in periods of congestion. Exceptions include vehicles in a queue waiting for work at the truck rack. These requirements will be posted on site and included as a contract provision. BayoTech will design the gate check-in so that the check-in point for trucks is well inside the project site to ensure that there are no trucks queueing outside of the facility.
- **ENG-MM-2: Use of clean trucks**. BayoTech will require all cargo trucks entering the site to be model year 2017 or newer and encourage its customers to use zero-emission trucks to transport hydrogen fuel. BayoTech will also use zero-emission trucks for at least 50% of its deliveries. BayoTech will educate customers about the SJVAPCD Truck Replacement Program and CARB's Advanced Clean Truck Program, including funding opportunities, via direct or electronic mailings. In addition, BayoTech will require all trucks be in compliance with CARB air quality regulations for on-road trucks, including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program (PSIP), and the Statewide Truck and Bus Regulation. BayoTech will post a copy of the SJVAPCD Truck Replacement Program information currently available at http://valleyair.org/grants/truck-replacement.htm and applicable CARB regulations at the terminal. These requirements will be posted on site and included as a contract provision.
- **ENG-MM-3: Energy/waste audit.** Within 3 months of project approval, BayoTech will conduct an energy audit to determine if there are additional energy-saving features that can be implemented as part of construction and operations. Based on the findings of the audit,

New Information:
ENG-MM-1, MM-2, and MM-3 were all updated in the Recirculated IS/MND to include additional provisions for compliance.

ENG-MM-1: includes new specifications related to gate placement to ensure no queueing outside the gates.

ENG-MM-2: provides for more stringent clean truck requirements, including requiring zero emissions trucks.

ENG-MM-3: provides additional requirements related to energy audits.

BayoTech will develop a plan for reducing overall energy use at its terminal. The plan must be submitted to the Port for review and approval. The plan will incorporate the following measures at a minimum:

- Replace less-efficient bulbs with energy-efficient LED light bulbs, where applicable and safe.
- Require lighting within the interior of buildings on the premises and outdoor lighting to use LED lighting or a technology with similar energy-saving capabilities.
- Identify areas for waste reduction, including reductions in single-use products in buildings.
- Install ENERGY STAR qualified HVAC equipment and variable frequency drives. When installing new equipment, ensure that the system is not oversized for the building's heating and cooling needs.
- Identify any applications for solar, including solar light stanchions.

Implementation of mitigation measures ENG-MM-1 and ENG-MM-2 would reduce fuel use and combustion through reduced idling and more efficient trucks. While zero-emissions equipment has become more available, there remain commercial availability questions for several classes of equipment, especially heavy-duty equipment and trucks. There are two main classes of zero-emission trucks: trucks powered by batteries that need to be charged (BEV) and trucks powered by fuel cells (hydrogen FCEV). While commercially available, zero-emission trucks are not available at the level needed to fully support operations. However, as discussed in Section 2.4, since publication of the Draft IS/MND, some truck makers have begun offering heavy duty (Class 8) zero-emissions trucks in the market. BayoTech has entered into a commercial agreement to procure and operate zero-emission hydrogen FCEV trucks. These fuel cell electric vehicles would produce no emissions other than water vapor and would not contribute to local air quality impacts. These trucks would be utilized for BayoTech-contracted hydrogen deliveries and transportation needs. However, third-party pickup and transport would also occur, depending on the contracted offtake from the facility, utilizing vehicles belonging to those third parties.

CARB's recent Advanced Clean Fleets (ACF) rule will require a full transition to zero-emissions drayage truck operations by 2035 and establish zero-emission truck purchase requirements for large commercial, federal, state, and municipal fleets, beginning as early as 2024 and ramping up to a 100% zero-emission fleet requirement in 2045, based on vehicle category. The ACF regulation applies to fleets performing drayage operations (from ports), those owned by state, local, and federal government agencies, and high-priority fleets.[2] Specifically, between now and 2035, regulated

[2] High-priority fleets are entities that own, operate, or direct at least one vehicle in California and that have either $50 million or more in gross annual revenues or that own, operate, or have common ownership or control of a total of 50 or more vehicles (excluding light-duty package delivery vehicles). The regulation affects medium- and heavy-duty on-road vehicles with a gross vehicle weight rating greater than 8,500 pounds, off-road yard tractors, and light-duty mail and package delivery vehicles.

entities will need to achieve zero-emissions targets for 50% of long-haul trucks, 75% of work trucks and daily-route heavy trucks, and 100% of box trucks, delivery vans, and yard trucks. After 2036, all new commercial trucks sold in the state must be zero-emissions, and by 2045, all fleets must be emissions-free.

In advance of that rule, many large companies in California are considering how best to meet requirements, including whether to invest in electric or hydrogen fuel cell trucks based on battery range, fuel availability, charging infrastructure, and cost. As there are still large questions regarding availability and fueling/charging, companies will need time to transition. The Port supports this statewide approach to transitioning to zero-emission trucks and equipment, is working with tenants to facilitate the process, and is requiring the use of clean trucks (defined as model year 2017 or newer, which are subject to USEPA Phase 1 GHG emissions and fuel economy standards).

Implementation of mitigation measure ENG-MM-3 would result in identifying direct energy savings and opportunities for use of renewable energy. It would reduce emissions from and emphasize a total reduction in waste generation, in addition to purchasing recycled goods. Waste deposited in landfills are a source of methane, a potent GHG. While not a large source of emissions at the terminal, procurement decisions can drive emission reductions over supply chains. For example, recent studies have found that GHG emissions from virgin pulp used to make paper products are approximately 30% higher than production of recycled paper product. Implementation of ENG-MM-1, ENG-MM-2, and ENG-MM-3 would ensure efficient consumption of resources and that the proposed project's impacts remain at a less-than-significant level.

B: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. The proposed project would construct a hydrogen fuel production plant; because hydrogen is a renewable fuel, the proposed project would contribute to successful implementation of state and local plans for renewable energy. To comply with the *Renewable Portfolio Standard Procurement Plan* (Port 2016), the Port has committed to purchasing State-approved renewable energy from the active California market. Energy use associated with construction and operation of the hydrogen production and filling station would comply with this plan, as the station would connect to the existing power grid at the Port. The Port would also offer BayoTech financial incentives to install high-efficiency equipment during project construction as required by the *Renewable Portfolio Standard Procurement Plan*.

In addition, the 2040 General Plan (City 2018a) requires that new developments incorporate energy conservation and green building practices. As noted above in Section 3.3.6.3-A, the proposed project would comply with all required provisions of the CALGreen, which requires green building practices.

Because the proposed project incorporates energy conservation and green building practices, impacts would be considered less than significant.

3.3.7 Geology and Soils

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i. 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.	☐	☐	☐	☒
	ii. Strong seismic ground shaking?	☐	☐	☒	☐
	iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv. Landslides?	☐	☐	☐	☒
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.3.7.1 Affected Environment

3.3.7.1.1 Soils

U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey data for the project site indicate that it is underlain primarily by partially drained Dello sand with 0% to 2%

slopes. Portions of the southeast and southwest corners of the site (less than 10% of the total site) are underlain by partially drained Merritt silty clay loam with 0% to 2% slopes (NRCS 2021).

3.3.7.1.2 Fault Rupture

Surface fault rupture is defined as slip on a fault plane that has spread to the Earth's surface and caused a rupture or disturbance. Fault rupture almost always follows pre-existing faults, which are zones of weakness. There are two active known faults (defined by the State as faults that show evidence of movement during the past 10,000 years) within 25 miles of the project area; these are Great Valley 7 (17.6 miles) and Greenville Connected (24.9 miles) (USGS 2008). There are numerous other active and potentially active faults farther east and west of the project site (USGS 2008). However, the project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (CGS 2021; County 2019).

3.3.7.1.3 Ground Shaking

Ground shaking is the most widespread effect of earthquakes. The estimated likelihood of a magnitude 6.7 or greater earthquake in the greater San Francisco Bay area before 2044 is 72% (Field and 2014 Working Group on California Earthquake Probabilities 2015). For individual faults in proximity to the project site, forecasted probabilities include 0.17% for the Great Valley 7 fault (17.4 miles from the project site; the closest earthquake fault to the project site) and 4.03% for the Greenville Connected Fault (24.2 miles from the project site; Field and 2014 Working Group on California Earthquake Probabilities 2015). The project site's setback from active earthquake faults would help mitigate impacts related to ground shaking. For other similar industrial sites at the Port in proximity to the project site, the estimated Maximum Considered Earthquake peak ground acceleration adjusted for site class effects was determined to be 0.393g (based on both probabilistic and deterministic seismic ground motion; SEG 2018). Nonetheless, regional seismic activity could cause accelerations severe enough to cause major damage to structures and foundations not designed to resist the forces generated by earthquakes. Underground utility lines are also susceptible where they lack sufficient flexibility to accommodate the seismic ground motion (City 2018a).

3.3.7.1.4 Liquefaction

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefaction are moderate to strong ground shaking (seismic source); relatively clean, loose granular soils (primarily poorly graded sands and silty sands); and saturated soil conditions (shallow groundwater). Because of the increasing overburden pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile. However, liquefaction has occurred in soils other than clean sand. The project site is not within a mapped liquefaction zone per California Geological Survey maps

(CGS 2021). The corners of the site underlain by Merritt silty clay loam would have low susceptibility to liquefaction. The Dello sand that underlies most of the project site is high density (bulk density of approximately 1.65 grams per cubic centimeter [g/cm^3], where 1.6 g/cm^3 or greater is considered high density). However, the water table of the Dello sand is only 3.5 feet below ground surface, indicating some potential for liquefaction (NRCS 2021).

3.3.7.1.5 Lateral Spreading

Lateral spreading is a form of liquefaction that results in lateral ground movement during which cohesive soil layers may fracture, subside, rotate, or disintegrate as a result of seismic activity. During an earthquake, lateral spreading usually takes place along weak shear zones that have formed within a liquefiable soil layer. Lateral spreading has generally been observed to take place in the direction of a free face (i.e., retaining wall, slope, and channel) but has also been observed to a lesser extent on ground surfaces with very gentle slopes. As noted, parts of the project site may have some susceptibility to liquefaction and therefore may also be susceptible to lateral spreading. The risk of lateral spreading would be highest in areas with steep slopes and reduced in areas with flat topography, which occurs throughout the project site.

3.3.7.1.6 Slope Failure and Slope Stability

Earthquakes can cause significant slope stress, potentially resulting in earthquake-induced landslides. Landslides most commonly occur in areas with steep slopes or within slide-prone geologic units that contain excessive amounts of water. Other factors that affect slope stability include site geology, climate, and human activity. The project site has entirely flat or near-flat topography, and this area is not likely to be susceptible to seismic-induced slope failure. California Geological Survey has not mapped landslide hazard zones in the project area or in its immediate vicinity (City 2018a).

3.3.7.1.7 Expansive Soils

Expansive soils are high in clay content and increase and decrease in volume upon wetting and drying, respectively. The change in volume exerts stress on buildings and other loads placed on these soils. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction. Site preparations and backfill operations associated with subsurface structures can often eliminate the potential for expansion. The project site is mapped as containing soils with low potential for expansivity. Dello sand has very low expansivity (linear extensibility of 1.5% through the soil column), and Merritt silty clay loam has low expansivity (linear extensibility of 3.6% through the soil column) (NRCS 2021).

3.3.7.1.8 Subsidence and Settlement

Subsidence involves a sudden sinking or gradual settling and compaction of soil and other surface material with little or no horizontal motion. Land surface subsidence can result from natural and artificial phenomena, including tectonic deformation, consolidation, hydrocompaction, collapse of

underground cavities, oxidation of organic-rich soils, rapid sedimentation, and the withdrawal of groundwater. Expansive soils and materials, including estuarine sediments, organic detritus, or thick organic deposits, are more susceptible to subsidence. Settlement occurs when ground shaking reduces the amount of pressure existing between soil particles, resulting in a reduction of the volume of the soil. Areas are susceptible to differential settlement if they are underlain by compressible sediments such as poorly engineered artificial fill. Differential settlement can damage structures, pipelines, and other subsurface entities. Earthquakes and seismic activity can accelerate and accentuate settlement. The project site is mapped as containing soils with very low susceptibility to expansion or subsidence (NRCS 2021). Therefore, the likelihood of earthquake-related settlement is low.

3.3.7.1.9 Erosion

Erosion is the detachment and movement of soil materials through natural processes or human activities. The project site resides within a Mediterranean climate, which is exemplified by moist winters and dry summers. Therefore, during the winter, the area is more prone to water erosion, while in the summer the area is more prone to wind erosion. The project site is entirely flat or near-flat and would not be particularly susceptible to erosion. The site does not exhibit evidence of current erosion.

3.3.7.1.10 Paleontology

The proposed project is located in an already disturbed area east of the San Joaquin River. Prior to historic land modifications, the region was characterized by extensive wetlands, with dry land available only on small hills and natural levees (Wagner et al. 1981). The area was a slightly elevated stream terrace with the low-lying Delta to the west and the higher ground of the Central Valley to the east.

The Bureau of Land Management developed a classification system based on the potential for the occurrence of significant paleontological resources in a geologic unit and the associated risk for impacts to the resource (BLM 2007, 2008). The system is summarized here. Any rock material that contains fossils has the potential to yield fossils that are unique or significant to science. However, paleontologists consider that geological formations having the potential to contain vertebrate fossils are more sensitive than those likely to contain only invertebrate fossils. Invertebrate fossils found in marine sediments are usually not considered by paleontologists to be unique resources because the geological contexts in which they are encountered are widespread and fairly predictable. Invertebrate fossil species are usually abundant and well preserved. In contrast, vertebrate fossils are much rarer than invertebrate fossils and are often poorly preserved. Therefore, when found in a complete state, vertebrate fossils are more likely to be a significant resource than are invertebrate fossils. Thus, geologic formations having the potential to contain vertebrate fossils are considered the most sensitive. Vertebrate fossil sites are usually found in non-marine upland deposits (BLM 2007). The

project site is situated on fill materials, atop Holocene alluvium. Alluvial deposits typically contain only invertebrate fossils (if any), and those are out of original depositional context (BLM 2007). Vertebrate fossils are considerably more likely to be significant or unique, as are fossils in their original context (BLM 2008).

3.3.7.2 Impact Evaluation

A: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: 1) 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); 2) strong seismic ground shaking; 3) seismic-related ground failure, including liquefaction; or 4) landslides?

Less-than-Significant Impact. The project area is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (CGS 2021; County 2019), and no known surface expression of active faults is believed to cross the project site; therefore, fault rupture through the project site is not anticipated, and there would be no impact related to this hazard.

In the event of a major earthquake, San Joaquin County could experience strong ground shaking, which has the potential to damage buildings and structures. The proposed project would include facilities for production, storage, and transfer of hydrogen fuel. Damage to these structures is possible in the event of a large earthquake. Proposed improvements would be constructed or installed in adherence with applicable seismic standards and would not increase the potential for human injury or loss of life. Hydrogen on site would be stored in appropriate containers or facilities to minimize the risk of hydrogen release during an earthquake. BayoTech also would maintain and implement an Integrated Control and Safety System (ICSS) for the facility, which would include measures designed to minimize the risk of impacts to persons and the environment from facility operation. Therefore, the proposed project would result in less-than-significant impacts related to seismic ground shaking.

The soils mapped as occurring at the project site are not notably susceptible to liquefaction, although geotechnical investigations conducted for the Endicott Biofuel Production Facility have identified liquefiable soils in nearby parcels (Stockton Port District 2013), and liquefiable conditions may be present at the project site. Soil excavation and grading/recompaction would be performed before construction in line with the requirements of the 2019 California Building Code, and the proposed improvements would be constructed or installed in adherence with applicable seismic standards. Therefore, the proposed project would result in less-than-significant impacts related to liquefaction.

The project site and surrounding parcels are flat and do not contain any steep slopes or other features suggesting susceptibility to slope failure or landslides. The proposed project would not

result in changes that would increase the potential for slope failure or landslides, and the site preparation measures described previously would reduce the potential for slope failure or landslides.

B: Would the project result in substantial soil erosion or the loss of topsoil?

No Impact. Because the project site is generally flat, the potential for substantial soil erosion during operations is considered minimal. Construction of the proposed project would involve excavating; grading/recompaction; paving; and constructing slabs on grade. Existing soils would be graded in place; therefore, there would be no loss of topsoil, and erosion impacts are unlikely to occur. Therefore, there would be no impact.

C: Would the project 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 an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact. As previously discussed, the proposed project would have no effect on the potential for slope failures or landslides, and risk from lateral spreading is minimal due to the project site's flat topography. Soils mapped as occurring on site are not notably susceptible to subsidence. Because the Dello sand that underlies most of the project site has a high-water table, some potential for liquefaction exists, but the high bulk density of the sand would greatly limit this potential. However, a soils investigation of the project site has not been conducted, and geotechnical investigations conducted for the Endicott Biofuel Production Facility have identified liquefiable soils in nearby parcels (Stockton Port District 2013). Fill soils potentially susceptible to subsidence are also common in the area. Proposed improvements would be constructed or installed in adherence with applicable seismic standards. Exposure to unstable geologic hazards would be typical to the region and limited to the minimal amount of on-site personnel. Therefore, the proposed project would have a less-than-significant impact related to unstable geological units or soils.

D: Would the project 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?

No Impact. Soil types identified as occurring within the project site do not exhibit expansive properties, and the excavating and grading planned during site preparation would further reduce the risk of soil expansion. Therefore, there would be no impact.

E: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would be served by the municipal sewage system, and the proposed project would not require the use of septic tanks or alternative wastewater disposal systems or affect any such systems. Therefore, there would be no impact.

F: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. There are no known unique geological or paleontological resources in the project area. The proposed project includes excavation during construction for site preparation; however, this site has been previously used and the soils excavated for those uses. Due to its geomorphological history, the project area is not likely to contain any fossils other than invertebrate fossils that are in a redeposited context. Therefore, there would be no impact.

3.3.8 Greenhouse Gas Emissions

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b.	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐

3.3.8.1 Affected Environment

3.3.8.1.1 Environmental Setting

Global climate change results from GHG emissions caused by several activities, including fossil fuel combustion, deforestation, and land use change. GHGs trap infrared radiation emitted from the Earth's surface, which otherwise escapes to space. The most prominent GHGs contributing to this process include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Certain refrigerants, including chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and hydrofluorocarbons (HFCs), also contribute to climate change. The greenhouse effect keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life.

Fossil fuel combustion removes carbon stored underground and releases it into the atmosphere. Emissions of GHGs are responsible for the enhancement of the greenhouse effect and contribute to what is termed "global warming," a trend of unnatural warming of the Earth's natural climate. Increased concentrations of GHGs in the earth's atmosphere increase the absorption of radiation and further warm the lower atmosphere. This process increases evaporation rates and temperatures near the surface. Climate change is a global problem, and GHGs are global pollutants, unlike criteria pollutants (such as O_3, CO, and PM) and TACs, which are pollutants of regional and local concern (see Section 3.3.3).

Global warming potential (GWP) is a measure of how much a given mass of GHG contributes to global warming. A relative scale is used to compare the gas in question to CO_2 (whose GWP is defined as 1). In this analysis, CH_4 is assumed to have a GWP of 25, and N_2O is assumed to have a GWP of 298 (IPCC[3]). Refrigerants have a GWP ranging from 76 to 12,240. Consequently, using each pollutant's GWP, emissions of CO_2, CH_4, N_2O, CFCs, HCFCs, and HFCs can be converted into CO_2 equivalence (CO_2e).

New Information:
The GWP was updated in this analysis to fix an error in the Draft IS/MND.

CH_4 was incorrectly listed as having a GWP of 21 and was corrected to 25 in the Recirculated IS/MND.

N_2O was incorrectly listed as having a GWP of 310 and was corrected to 298 in the Recirculated IS/MND.

Recent environmental changes linked to global warming include rising temperatures, shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (IPCC 2021; CCCC 2018; USGCRP 2014). In California, an assessment of climate change impacts predicts that temperatures will increase between 5.6°F to 8.8°F by 2100, based on low and high global GHG emission scenarios (CCCC 2018). Predictions of long-term negative environmental impacts in California include worsening of air quality problems, a reduction in municipal water supply from the Sierra snowpack, sea level rise, an increase in wildfires, damage to marine and terrestrial ecosystems, and an increase in the incidence of infectious diseases, asthma, and other human health problems (CCCC 2018).

3.3.8.1.2 Regulatory Setting

Executive Order (EO) S-3-05, signed by then-Governor Schwarzenegger on June 1, 2005, established the following GHG reduction targets for California: 1) by 2010, reduce GHG emissions to 2000 levels; 2) by 2020, reduce GHG emissions to 1990 levels; and 3) by 2050, reduce GHG emissions to 80% below 1990 levels. EO S-3-05 also called for the California Environmental Protection Agency to prepare biennial reports on progress made towards achieving these goals, impacts to California from global warming, and mitigation and adaptation plans to combat these impacts.

The California Global Warming Solutions Act of 2006 (AB 32) required CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB was directed to set a

[3] The CARB *Regulation for the Mandatory Reporting of Greenhouse Gas Emissions* was originally approved in 2007 and revised in 2010, 2012, 2013, and 2014. Amendments to the Mandatory Reporting of GHG emissions were approved by the Office of Administrative Law on March 29, 2019. The AR5 values are the most recent, but the second assessment report (1995) and fourth assessment report (2007) values are also listed because CARB sometimes used them for GHG inventory and reporting purposes under the *Regulation for the Mandatory Reporting of Greenhouse Gas Emissions*. CARB has not used the AR5 GWP values (2013) in any of their recent GHG inventory and reports. Also, they have not yet requested facilities report the GHG emissions with the AR5 GWP values. Therefore, the Draft IS/MND used the similar GWP values from the IPCC second and fourth assessment reports.

GHG emission limit, based on 1990 levels, to be achieved by 2020. AB 32 set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. AB 32 also required CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

On December 11, 2008, CARB adopted the AB 32 Scoping Plan, which set forth the framework for meeting the State's GHG reduction goal set by EO S-3-05. On October 20, 2011, CARB adopted the final cap-and-trade regulation. CARB also approved an adaptive management plan that monitors the progress of reductions and recommends corrective actions if progress is not as planned or there are unintended consequences in other environmental areas (e.g., concentration of local criteria pollutants).

In 2014, CARB adopted an update to the 2008 AB 32 Scoping Plan that builds upon that initial plan with new strategies and recommendations. The 2008 AB 32 Scoping Plan and 2014 Scoping Plan Update require that reductions in GHG emissions come from virtually all sectors of the economy and be accomplished from a combination of policies, regulations, market approaches, incentives, and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources.

In 2017, CARB prepared an update to the Scoping Plan. The update established a set goal to reduce GHG emissions to 40% below 1990 inventory levels by 2030 (CARB 2017).

In August 2008, SJVAPCD adopted the Climate Change Action Plan to assist lead agencies in assessing and reducing the impacts of project-specific GHG emissions on global climate change. The Climate Change Action Plan relies on the use of performance-based standards, otherwise known as Best Performance Standards (BPSs), to assess the significance of project-specific GHG emissions on global climate change. Projects implementing BPS are determined to have a less-than-significant impact. Otherwise, demonstration of a 29% reduction in GHG emissions from business as usual is required to classify a project's impact as less than significant.

In 2009, SJVAPCD adopted the *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* (SJVAPCD 2009a) and the *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD 2009b). SJVAPCD was not able to determine a specific quantitative level of GHG emissions increase above which a project would have a significant impact on the environment, and below which it would have an insignificant impact. SJVAPCD staff concluded that impacts of project-specific emissions on global climatic change are cumulative in nature, and the significance thereof should be examined in that context. SJVAPCD requires all projects to reduce their GHG emissions, whether through project design elements or mitigation. Projects achieving performance-based standards that have been demonstrated to be BPS would be considered to have a less-than-cumulative significant impact on global climate change (SJVAPCD 2009a).

The City updated and adopted its 2040 General Plan on December 4, 2018; it has new GHG measures to comply with a 2008 Settlement Agreement with the State and the Sierra Club that requires the City to address GHG reductions, including through specific provisions in the 2040 General Plan. The 2040 General Plan represents a substantial change in the policy framework for future development in the City compared to the 2035 General Plan (City 2007). The fundamental shift is from emphasizing growth in "outfill" areas at the periphery of the City to focusing new construction and redevelopment in existing "infill" neighborhoods. This change is reflected in the land use map, an associated map depicting the transportation network required to serve future development, and in the goals, policies, and actions throughout the document. In addition, the City's 2040 General Plan includes the following policies regarding GHG and climate change that are applicable to the proposed project:

- **Policy TR-3.2:** Require new development and transportation projects to reduce travel demand and GHG emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.
- **Policy CH-5.1:** Accommodate a changing climate through adaptation, mitigation, and resiliency planning and projects.
  - Action CH-5.1B: Maintain and implement the City's Climate Action Plan and update the CAP to include the following:
    - Updated communitywide GHG emissions inventory
    - 2030 GHG emissions reduction target, consistent with SB 32
    - Estimated 2030 GHG emissions reduction benefits of State programs
    - Summary of the City's progress toward the 2020 local GHG emissions reduction target
    - New and/or revised GHG reduction strategies that, when quantified, achieve the 2030 reduction target and continue emission reductions beyond 2030
    - New or updated implementation plan for the CAP
- **Policy CH-5.2:** Expand opportunities for recycling, reuse of materials, and waste reduction.
  - Action CH-5.2A: Use recycled materials and products for City projects and operations where economically feasible, and work with recycling contractors to encourage businesses to use recycled products in their manufacturing processes and encourage consumers to purchase recycled products.
  - Action CH-5.2B: Continue to require recycling in private and public operations, including construction/demolition debris. (City 2018a)

3.3.8.1.3 Methodology for Determining Impacts

In determining the significance of a project's impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental

contribution to climate change and its conclusion that the project's incremental contribution is consistent with those plans, goals, or strategies (CEQA Guidelines Section 15064.4[b][3]).

In December 2018, the California Natural Resources Agency clarified several points regarding the method for determining GHG impacts in CEQA documents. CEQA Guidelines Section 15064.4 includes the following provisions as summarized by the Governor's Office of Planning and Research (OPR; OPR 2023):

- "Lead agencies must analyze the greenhouse gas emissions of proposed projects" (CEQA Guidelines Section 15064.4[a]).
- "The focus of the lead agency's analysis should be on the project's effect on climate change, rather than simply focusing on the quantity of emissions and how that quantity of emissions compares to statewide or global emissions" (CEQA Guidelines Section 15064.4[b]).
- "Lead agencies may rely on plans prepared pursuant to Section 15183.5 (Plans for the Reduction of Greenhouse Gases) in evaluating a project's greenhouse gas emissions" (CEQA Guidelines Section 15064.4[b][3]).

The Port generally adopts SJVAPCD thresholds related to emission sources as most GHG sources at the Port also result in CAP emissions. SJVAPCD has established GHG thresholds for projects subject to CEQA based on achieving performance-based standards that have been demonstrated to be BPSs. For projects implementing SJVAPCD's BPSs, quantification of project-specific GHGs is not required (SJVAPCD 2009). SJVAPCD's BPSs generally apply to projects with stationary industrial emission sources and land use and development projects. For development projects, BPSs include project design elements, land use decisions, and technologies that reduce GHG emissions. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, conserve water, and use energy-efficient appliances. For other projects, including commercial facilities such as port terminals and projects not implementing BPSs, SJVAPCD requires that project-specific GHG emissions be quantified and compared to a 29% reduction in GHG emissions as compared to the business as usual (BAU) standard to determine significance (SJVAPCD 2009). The City's CAP also relies on a 29% reduction from 2020 levels as compared with the BAU goal. However, the BAU approach has been effectively rendered unusable after the California Supreme Court's 2015 ruling in *Center for Biological Diversity v. California Department of Fish and Wildlife*. In addition, the City's CAP is not consistent with larger state goals, namely the latest adopted CARB Scoping Plan 2030 (CARB 2017), which is currently being updated with adoption expected in 2022.

The South Coast Air Quality Management District (SCAQMD) has established thresholds specific to residential, commercial, and industrial development as recommended by a 2008 work group effort to identify potential GHG emissions thresholds that achieve broader CARB goals to reduce GHG emissions. The work group's findings are detailed in the *Interim Greenhouse Gas Emissions*

Significance Thresholds guidance document, which outlines an approach to developing a quantitative threshold and includes substantial evidence supporting the approaches (SCAQMD 2008). The interim guidance has not been updated.

The current interim thresholds comprise the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the proposed project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the proposed project is less than significant:
  - All land use types: 3,000 metric tons (MT) of CO_2e per year
  - Based on land use type (per year):
    - residential: 3,500 MT of CO_2e
    - commercial: 1,400 MT of CO_2e
    - mixed use: 3,000 MT of CO_2e
  - Industrial (stationary) projects: 10,000 MT of CO_2e per year
- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage (this percentage is currently undefined)
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: 2020 target: 3.0 MT of CO_2e per service population per year for projects and 4.1 MT of CO_2e per service population per year for plans
- Tier 5 involves mitigation offsets to achieve the target significance threshold.

The SCAQMD's draft thresholds use the EO S-3-05 Year 2050 goal as the basis for the Tier 3 screening level. Achieving the EO objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 parts per million, thus stabilizing the global climate (SCAQMD 2008).

For the purposes of CEQA, and until statewide guidance is adopted, the Port will use the Tier 3 quantitative thresholds recommended in the SCAQMD's Interim Thresholds document as follows:

- Industrial Projects: 10,000 MT of CO_2e per year
  - Consistent with SCAQMD, projects are considered "Industrial Projects" if the facility includes stationary sources of GHG emissions requiring a permit from an air district.

- Residential and Commercial (may also include industrial) building structures that attract or generate mobile source emissions and Mixed-Use Projects (including industrial parks and warehouses):
  - Residential: 3,500 MT of CO_2e per year
  - Commercial: 1,400 MT of CO_2e per year
  - Mixed use: 3,000 MT of CO_2e per year
- Construction GHG emissions amortized over the life of a project are required to be included in a project's annual GHG emissions totals for both categories (SCAQMD 2008).

Since the facility is a stationary source, the Port has opted to use the 10,000 MT of CO_2e per year industrial threshold consistent with the approach outlined. Based on the above guidance, the analysis herein analyzes the GHG emissions that would be generated as a result of the proposed project and addresses how potential emissions as well as the proposed project design would compare to state, regional, and local plans to address climate change.

3.3.8.2 Impact Evaluation

A: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project would generate GHG emissions from construction and operations. Construction would be conducted over a 3- to 4-month period and would include the use of heavy equipment. For construction phase project emissions, GHGs are quantified and amortized over the life of the proposed project. To amortize the emissions over the life of the proposed project, SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 20-year project lease under the land use agreement with the Port, and then adding that number to the annual operational phase GHG emissions. As such, construction emissions were amortized over a 20-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 11. Details regarding the development of GHG emissions estimates for the proposed project are included in Appendix C.

Table 11
Annual Construction Greenhouse Gas Emissions

Year	Construction Project	Construction Phase	CO_2e (MT)
2024	Total GHG Emissions from Construction		222
Amortized Construction Emissions (MT of CO_2e per year)			**11.10**

Note:
Emissions may not precisely sum due to rounding.

Operations: GHG emissions are classified as either direct or indirect. Direct emissions are associated with the production of GHGs at a project site. Direct emissions for the proposed project include permitted operational emissions from the chemical reaction and combustion of natural gas-fired SMR on site. Indirect emissions include the emissions from off-site vehicles (both gasoline- and diesel-fueled) delivering materials and equipment to and from the project site, workers' vehicle trips, the conveyance and consumption of water and electricity, and the collection and disposal of solid waste.

Table 12
Operational Greenhouse Gas Emissions

Sources	Annual GHG Emissions (MT per year)			
	CO_2	CH_4	N_2O	CO_2e
H2-1000 Unit #1	3,786.23	0.04	0.01	3,790
H2-1000 Unit #2	3,786.23	0.04	0.01	3,790
H2-1000 Units 1 & 2 Start-up Venting Emissions	1.36	0.12	0	4
Area	0.01	<0.005	<0.005	0.01
Energy Consumption	2,401	0.17	0.02	2,412
Mobile (vehicle tailpipe emissions)	2,223	0.04	0.34	2,328
Solid Waste (generation and transport)	0	0	0	0
Water Consumption	2.1	0.07	<0.005	4.36
Total Operational GHG Emissions				**12,329**
Total Construction GHG Emissions (amortized, from Table 11)				11.10
Total Combined Construction and Operational GHG Emissions				**12,340**
Threshold				10,000
Exceed Threshold?				Yes

Note:
Emissions may not precisely sum due to rounding.

As shown in Table 12, the proposed project would result in 12,340 MT per year, which would exceed the 10,000-MT-per-year industrial threshold; therefore, impacts would be considered significant.

In addition to direct emissions, there would be emissions associated with leakages. As discussed in Section 2.4., BayoTech would employ several systems to monitor and control leaks at the facility. However, due to the nature of hydrogen, some level of leakage is expected. Through system tests, BayoTech has found that 0.018 kilogram per year (kg/yr) of hydrogen would be lost through leakage per each 25-cylinder storage pod. The proposed project includes eight storage pods for a total assumed leakage rate of 0.144 kg/yr. The Intergovernmental Panel on Climate Change (IPCC) does not consider hydrogen a GHG because it does not have the inherent

New Information:
Additional information related to the potential for hydrogen leaks and BayoTech's control system was added to the Recirculated IS/MND as well as information related to the potential for hydrogen to act as an indirect GHG.

property of trapping heat in the atmosphere. However, the IPCC has found that hydrogen reacts similarly to CO in the troposphere, leading to ozone production and methane enhancement and, like CO, considers hydrogen an indirect GHG. Based on these properties, the IPCC has calculated a 100-year GWP for hydrogen of 5.8. The indirect effects of hydrogen expressed as CO_2e can be calculated as 0.000144 metric tons (MT) H2/yr x 5.8 = 0.00084 MT CO_2e/yr.

Mitigation Measures: The following mitigation measures would be implemented to reduce GHG emissions:

- **GHG MM-1: Renewable Natural Gas (RNG).** BayoTech will acquire RNG in sufficient quantity and carbon intensity to reduce the net carbon emissions of the fuel stock used in hydrogen production by an equivalent of 2,340 MT of CO_2e per year, below the threshold of significance. BayoTech will provide the Port with annual reports of RNG purchase records and overall fuel consumption to demonstrate the required carbon emission reduction (2,334 MT per year). The reports must identify the quantity of RNG and traditional natural gas consumed and fully document the availability of RNG. To meet the requirements of this mitigation measure, RNG can be acquired directly or acquired utilizing a certified book and claim accounting methodology in order to meet project demand.
- **ENG-MM-1: Truck Idling Reductions** (see Section 3.3.6.3)
- **ENG-MM-3: Energy/Waste Audit** (see Section 3.3.6.3)

RNG is pipeline quality gas produced from a renewable source including livestock waste, landfills, wastewater sludge, food waste, and other organic waste operations. RNG is essentially captured biogas (gas produced from the decomposition of organic matter) that has been processed to purity standards. Typically, a lifecycle approach is used to calculate the GHG emissions associated with RNG, including energy used to convert the organic material or waste to biomethane, and any methane leaks along the supply chain, as well as all avoided emissions resulting from the project. If the biogas is produced from waste rather than crops grown to generate natural gas, RNG avoids more emissions than it generates, leading to a net-negative carbon intensity. Although BayoTech would use natural gas procured from existing physical utility distribution pipelines, the use of RNG would be facilitated using the "Book and Claim" credits, based on the purchased environmental attributes of RNG produced at other locations, in accordance with established California LCFS methodology, according to CARB. These credits may be procured by BayoTech and/or in coordination with suppliers and customers within the hydrogen value chain.

The LCFS regulation specifies that, "Indirect accounting may be used for RNG used as a transportation fuel or to produce hydrogen for transportation purposes (including hydrogen that is used in the production of a transportation fuel)." Hydrogen fuel that is deemed eligible for LCFS credits would be required to be used in the

New Information:
Additional information related to the use of RNG a mitigation was added to the Recirculated IS/MND.

transportation market (per LCFS rules) and would be used predominantly by fuel cell vehicles. According to LCFS methodology, the replacement of a diesel-fuel-powered heavy duty truck with a hydrogen fuel cell heavy duty truck is 1.9 times more energy efficient, which provides up to 47% reduction in carbon emissions. The use of RNG via book and claim would reduce carbon emissions further. The hydrogen produced using RNG purchased as a GHG mitigation measure does not qualify for sale under the LCFS, as the environmental attributes of the RNG will have been retired already as part of the CEQA mitigation. The LCFS fuel pathway is supported by an upstream analysis to substantiate the quantities of RNG used in the production. In this way, RNG purchased for the mitigation of CEQA GHG impacts is not double-counted and reflects an actual offset of GHG produced by the project.

Implementation of mitigation measure ENG-MM-1 would reduce GHG emissions through reduced combustion by reduced idling. Indirect emissions from electricity production also produce a large percentage of emissions. Through state initiatives, these emissions will likely decrease over the life of the proposed project as the grid is powered by a greater percentage of renewable energy sources and potentially on terminal and/or on Port renewable sources, such as solar. Implementation of mitigation measure ENG-MM-3 would result in identifying direct energy savings and opportunities for the use of renewable energy, and it would reduce emissions from production and waste generation and emphasize a total reduction in waste generation, in addition to purchasing recycled goods. Waste deposited in landfills are a source of methane, a potent GHG. While not a large source of emissions at the terminal, procurement decisions can drive emission reductions over supply chains. For example, recent studies have found that GHG emissions from virgin pulp used to make paper products are approximately 30% higher than the production of recycled paper products.

With the implementation of GHG-MM-1, ENG-MM-1, and ENG-MM-3, the proposed project would result in a less-than-significant GHG emissions impact.

B: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed above, there are numerous statewide regulations and initiatives related to overall GHG reductions. The proposed project is subject to future state and local requirements imposed by CARB's 2017 Climate Change Scoping Plan Update (CARB 2017). The Climate Change Scoping Plan Update describes how California will reduce its GHG emissions by 40% below 1990 levels by 2030. The 2022 Update is currently under development and will also be applicable to the proposed project. The proposed project would comply with all required provisions of CALGreen, which requires green building practices. In addition to CALGreen, the City's 2040 General Plan (City 2018) requires that new developments incorporate energy conservation and green building practices.

The City's 2040 General Plan (City 2018) includes several policies that are applicable to the proposed project, specifically Policy TR-3.2, which requires new development and transportation projects to reduce GHG emissions, and Policy CH-5.2, which expands opportunities for recycling, reuse of materials, and waste reduction.

The proposed project produces LCFS-eligible fuel and therefore is consistent with state goals to de-carbonize fuel. The LCFS Program is designed to encourage the use of cleaner low-carbon transportation fuels, encourage the production of those fuels, reduce GHG emissions, and decrease petroleum dependence in the transportation sector (CARB 2023b). The LCFS standards are expressed in terms of the "carbon intensity" (CI) of petroleum fuels and their respective substitutes using a lifecycle approach to that considers the direct emissions associated with producing, transporting, and using the fuels, as well as significant indirect effects on GHG emissions, such as changes in land use for some biofuels. The CI scores assessed for each fuel are compared to a declining CI benchmark for each year. Low-carbon fuels below the benchmark generate credits, while fuels above the CI benchmark generate deficits (CARB 2023b). Fuel providers must demonstrate that the mix of fuels meets the LCFS CI standards, or benchmarks, for each annual compliance period. Hydrogen has been identified by CARB as a low-carbon fuel under the LCFS Program. Current carbon intensities for SMR-produced hydrogen range from 99 to 151 grams of CO_2e per megajoule (MJ) as compared to 100 grams of CO_2e per MJ for diesel depending on production. It is assumed that hydrogen produced by BayoTech initially would be close to 118 grams of CO_2e per MJ based on feedstock and production. Carbon efficiencies of fuels are then adjusted using the energy equivalent ratio (EER) which varies depending on the fuel being replaced. The EER for hydrogen when replacing ultra-low sulfur diesel (ULSD) fuel in heavy-duty vehicles is 1.9, meaning 1 MJ of energy produced via hydrogen replaces 1.9 MJ of ULSD energy in these vehicles. The energy generated by the annual production of hydrogen at a rate of 2,000 kg/day is 87,600,000 MJ, which could replace 166,440,000 MJ of energy generated by diesel. Based on a carbon intensity of 100 grams of CO_2e per MJ for ULSD, the 12,327 MT CO_2e produced by the annual operations of the proposed project would replace 16,644 MT CO_2e of ULSD emissions. That would be a net decrease in GHG emissions of 4,317 MT CO_2e per year, which contributes to achieving the state GHG reduction target. However, because the savings come when the fuel is used and the credits generated by the LCFS are sold, these emission savings are not considered against the total emissions generated by the proposed project's production of hydrogen.

In addition, CARB's *2022 Scoping Plan for Achieving Carbon Neutrality* (November 2022) calls for accelerating the transition from combustion of fossil fuels to hydrogen. The plan recognizes that hydrogen can be produced from several sources with varying levels of CI with the eventual goal of producing hydrogen through electrolysis with renewables; however, finds that SMR paired with carbon capture and sequestration can help ensure a rapid transition to hydrogen and increase

hydrogen availability until such time as electrolysis with renewables can meet the ongoing need, assuming there is also sufficient water supply (CARB 2022).

While the proposed project produces LCFS certified fuel and therefore is consistent with state goals to de-carbonize fuel, the project would not incorporate carbon capture and sequestration. However, mitigation measure GHG-MM-1, which involves BayoTech acquiring RNG in sufficient quantity and carbon intensity to reduce the net carbon emissions of the fuel stock used in hydrogen production by an equivalent of 2,334 MT of CO_2e per year to reduce GHG emissions. RNG has a lower CI than pipeline natural gas, which means that less CO_2 is emitted in its production, transport, and combustion. This measure reduces the CI of the hydrogen and would reduce the GHG impacts of the proposed project to below the 10,000-MT-CO_2e threshold identified in Section 3.3.8.1.3, consistent with the state GHG reduction targets. In addition, BayoTech does anticipate producing hydrogen with a lower CI in the future as more renewable fuel stock becomes available. Based on the net emissions after mitigation, the proposed project would result in a less-than-significant impact.

3.3.9 Hazards and Hazardous Materials

	Would the project:	**Potentially Significant Impact**	**Less-Than-Significant Impact After Mitigation**	**Less-Than-Significant Impact**	**No Impact**
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☒	☐	☐
d.	Be located on a site that 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?	☐	☐	☐	☒
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 or excessive noise for people residing or working in the project area?	☐	☐	☐	☒

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

3.3.9.1 Affected Environment

New Information:
Additional information related to BayoTech's emergency procedures was added to the Recirculated IS/MND.

BayoTech's facility is designed to meet all relevant codes and standards to ensure the safe operation of the hydrogen production plants. BayoTech would maintain and implement an ICSS for the facility, which would include measures designed to minimize the risk of impacts to persons and the environment from facility operation. The facility ICSS would include constant personnel or technology-based monitoring of the hydrogen production and storage systems, and the production and storage systems would use appropriate systems for processing and storing hydrogen. Federally compliant high-pressure cylinders would be used for truck transport. All procedures developed include potential hazards and mitigation techniques, as well as the requirements to cover each hazard during the pre-job brief prior to performing actions.

There is an emergency shut down procedure in place for BayoTech facilities. Local fire, police, and emergency response agencies would be consulted. A description of all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substance incident would be provided. Emergency procedures for the proposed facility include the following:

- Develop Alarm and Emergency Response Instruction (CR-AERI-001), which covers abnormal conditions associated with hydrogen production unit operations, as well as immediate and subsequent response actions
- Develop Local Emergency Response Plan with point of contact information, muster locations for emergency events, and local actions taken during different events
- Provide uninterruptible power supply for the facility that controls the programmable logic controllers (PLC) to ensure an orderly shutdown and use the cellular network to contact first responders.
  - An uninterruptible power supply is located in the Control Room server room in Albuquerque, New Mexico, to provide continued communications in the event of a loss of power to the Albuquerque site. This uninterruptible power supply provides adequate

time to safely shut down the plant remotely or to shift operational control to qualified operators locally on site.

- An uninterruptible power supply would also be located locally at the Stockton facility site to provide continued power to critical components in the event of a loss of site power. This power supply provides adequate time for a safe and controlled shutdown of the plant prior to a complete loss of power.

3.3.9.1.1 Port Hazardous Materials Regulations

The Port maintains contractual requirements for the use, handling, and storage of hazardous materials by all of its tenants, in part through the standard tenant terms and conditions listed in the Port's General Tariff No. 1 (Port 2022b). Per General Tariff No. 1, tenants are required to notify the Port immediately of the presence of any hazardous materials on or below property leased from the Port, must "comply with all affirmative legal requirements concerning Hazardous Materials," and must provide the Port with an up-to-date list of all hazardous materials on leased property at least once per year and before any new hazardous materials are brought onto Port property (Port 2022b).

3.3.9.1.2 Listed Hazardous Material Sites

The location of the proposed facility does not appear on the USEPA databases of Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act; or National Priorities List sites (USEPA 2021, 2022). Surrounding sites potentially containing hazardous materials were identified through a search of the California Department of Toxic Substances Control EnviroStor (DTSC 2022) and State Water Resources Control Board GeoTracker (SWRCB 2022) databases. Within a 2-mile radius of the proposed facility, the EnviroStor database lists five cleanup sites and the GeoTracker database identifies 39 cleanup sites with active, open, or unidentified statuses (with some sites occurring in both databases). None of these sites occur within 1,000 feet of the proposed facility.

3.3.9.1.3 Potentially Hazardous Materials On Site

Under baseline conditions, the project site is vacant and not known to contain any potentially hazardous materials. The site is not known to have been used for storage or handling of potentially hazardous materials. Under proposed project conditions, as discussed in Section 2.4, the BayoTech facility would produce hydrogen fuel from natural gas and store it temporarily on site before it is loaded into high-pressure trailers for transport. Storage and production would comply with the NFPA 2 "Hydrogen Technologies Code," and ISO 16110:2007, "Hydrogen generators using fuel processing technologies—Part 1: Safety," standards, as well as relevant federal, state, and local regulations. Additionally, anhydrous ammonia will be used in the SCR unit for abatement of NOx. Anhydrous ammonia will be delivered by suppliers to storage tanks designed specifically for that purpose. From the tanks, the ammonia will feed directly into the SCR unit. The 10-cubic-foot SCR unit will emit ammonia from the deaerator vent to not exceed the permitted limit of 10 ppm.

3.3.9.1.4 Sensitive Receptors

There are no schools, airstrips, airports, or other sites potentially sensitive to hazards or hazardous materials within 1 mile of the proposed facility. The school that is nearest to the project area is George Washington Elementary School, located approximately 1.4 miles to the east of the proposed facility, followed by Victory Elementary School, which is located approximately 1.5 miles across the San Joaquin River to the northeast of the proposed facility. The nearest airport is the Stockton Municipal Airport, located approximately 5.7 miles southeast of the proposed facility.

3.3.9.1.5 Emergency and Spill Response Plans

The proposed BayoTech facility would include an ICSS, incorporating active technological and personnel-based monitoring, emergency response protocol, and process safety management. The ICSS and the plans incorporated into it are designed to minimize risks to workers, the public, and the environment, and to integrate with and support local emergency services in case of emergency.

Regional emergency response plans are detailed in the 2008 San Joaquin County Office of Emergency Services' *Hazardous Materials Area Plan* (SJCOES 2008). The plan discusses topics such as natural hazards, emergency management, mitigation programs, emergency preparedness, and state roles and responsibilities. Under the plan, considerations have been made for the area, including for hazardous materials. Additionally, Appendix 5 of the plan addresses non-routine emergency responses, including responses to industrial chemical hazards and terrorist chemical release (SJCOES 2009). Other hazard plans for the region and throughout California would also apply to the proposed project. To prevent spills into navigable waters and adjoining shorelines, a Spill Prevention, Control, and Countermeasures Plan (SPCCP) would be developed for the proposed facility.

3.3.9.1.6 Wildfire Hazards

The project site is not within any fire hazard severity zones (CAL FIRE 2022a, 2022b). There are no wildlands within the project area, and wildland fires do not pose a risk to the project site.

3.3.9.2 Impact Evaluation

A: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact After Mitigation. The purpose of the proposed project would be production of hydrogen fuel, a potentially hazardous material. Production would take place within a modular system, compliant with the relevant industry standards discussed under Section 3.3.9.1.3. The facility ICSS would include constant personnel or technology-based monitoring of the hydrogen production and storage systems, and the production and storage systems would use appropriate systems for processing and storing hydrogen. Federally compliant high-pressure

cylinders would be used for truck transport. Therefore, production and handling of hydrogen would have a less-than-significant impact related to hazard to the public or the environment.

Project-related construction work would involve surface preparation (excavation, grading, and paving of the project site, followed by constructing slabs on grade). Because the site has not been used for storage or handling of hazardous materials, these surface preparation activities would not expose workers, the public, or the environment to hazardous materials. Site construction and operations would require small quantities of common industrial materials, some of which may be hazardous if improperly managed, such as anhydrous ammonia. The City Fire Department is equipped to respond in the unlikely event of a site accident, and response plans have been developed for the region.

If improperly managed, construction of the proposed project may result in spills, erosion, or other inputs of pollutants to downstream waterbodies. During operation of the proposed project, similar impacts could also occur. Although the risk for these hazards is low given the relatively small scale of construction and operations, impacts could be potentially significant without mitigation. Mitigation measure BIO-MM-1 would be implemented to reduce potential construction and operational impacts to off-site sensitive habitats from spills or polluted runoff. With implementation of mitigation measure BIO-MM-1 as well as the facility's ICSS and SPCCP, the proposed project would have less-than-significant impacts from construction or operational use of common industrial materials.

B: Would the project 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?

Less-than-Significant Impact After Mitigation. As described above, the purpose of the proposed project would be production, temporary storage, and transportation of hydrogen fuel. These processes would use appropriate technologies for safe management of hydrogen, and the safety and emergency response measures in the ICSS would reduce any hazards from hydrogen to the public or the environment to less-than-significant.

Small quantities of potentially hazardous common industrial materials, such as anhydrous ammonia, would be required for site construction and operations. Without mitigation, the proposed project could potentially result in impacts associated with the accidental upset of hazardous common industrial materials. The potential for accidental upset of common industrial materials would be reduced through implementation of mitigation measure BIO-MM-1, which include construction and operational measures to control spills and runoff. In addition, the proposed project would operate in compliance with all applicable regulations, including Port requirements for the storage of hazardous materials (Port 2022b). The City Fire Department is equipped to respond in the unlikely event of a site accident, and emergency response plans have been developed for the region. Therefore, with

implementation of mitigation measure BIO-MM-1, the proposed project would result in a less-than-significant impact related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

C: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Less-than-Significant Impact After Mitigation. The nearest school is George Washington Elementary School, located approximately 1.4 miles to the east. No school is proposed within the 0.25-mile radius of the project site. Because of the area's zoning (Port Area), it is unlikely that a school would be constructed within this radius. West Washington Street, which could be used to transport hydrogen fuel, a hazardous substance, is located within 0.25 mile of the George Washington Elementary School. Although the risk for these hazards is low given the relatively small scale of construction and operations, impacts could be potentially significant without mitigation. The following mitigation measures would be implemented to reduce potential construction and operational impacts of handling a hazardous substance near the existing George Washington Elementary School:

- **HAZ-MM-1: Use of Designated Roadways**. Offsite truck transport of hydrogen fuel would use the roadways designated by the Port for truck transport (i.e., Navy Drive). These roads do not pass by George Washington Elementary School or any other existing or proposed school.

With implementation of HAZ-MM-1, hydrogen fuel would not be handled within 0.25 mile of an existing school; therefore, the proposed project would result in less-than-significant impacts related to hazardous material emissions or handling in the vicinity of a school.

D: Would the project be located on a site that 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?

No Impact. The proposed facility site would not be located on or adjacent to a site that appears on the Cortese list or any other list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed project would have no impact related to the location of the project site.

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 or excessive noise for people residing or working in the project area?

No Impact. The project site is not located within an airport land use plan area, and the nearest airport or airstrip is located approximately 5.7 miles to the southeast. Although truck transport may occur in proximity to airports, the proposed project entails transport of compressed gas per applicable regulations. Therefore, the proposed project would result in no impact related to aviation.

F: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. BayoTech would implement an ICSS at the proposed facility, as discussed in Section 3.3.9.1.5. The ICSS would provide facility monitoring and include plans that address safety and emergency preparedness. Regional emergency response plans, including but not limited to the San Joaquin County *Hazardous Materials Area Plan* (SJCOES 2008), were developed in consideration of activities occurring within industrial areas of the City. The proposed project would not interfere with implementation of these response plans. Therefore, there would be no impact related to impairment of emergency plans.

G: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The project site is not within any fire hazard severity zones, and there are no wildlands or other areas susceptible to wildfire in the project area. Therefore, there would be no impact related to wildland fires.

3.3.10 Hydrology and Water Quality

	Would the project:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	i. Result in a substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
	iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
	iv. Impede or redirect flood flows?	☐	☒	☐	☐

	Would the project:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.3.10.1 Affected Environment

3.3.10.1.1 Surface and Stormwater

The existing surface of the project site is compacted soil with soils that have low permeability. The site has been graded flat over many years of management for vegetation control. A 10- to 20-foot-wide earthen, trapezoidal swale occurs on the north side of the site, which drains to a local storm drain to the west. All runoff from the site enters this engineered swale, which moves stormwater to the retention basin immediately west of Navy Drive. All stormwater runoff from the East Complex is conveyed via a system of drainage ditches and channels before being pumped into the Navy Drive stormwater retention basin. Drainage ditches on the East Complex are generally open, with culverts beneath road crossings or other developments (Photograph 7). During years when the retention basin reaches a high level, stormwater is pumped to the San Joaquin River. Within the project area, construction would involve paving approximately 0.65 acre with concrete and 3.23 acres with asphalt. Approximately 1.12 acres of the site would be overlain by crushed gravel. Soil permeability would be lost where concrete and asphalt are placed, whereas the gravel surfaces would retain existing permeability. Approximately 3.88 acres of impervious surfaces would be created through proposed project implementation for which runoff would be captured a new retention basin constructed onsite, which discharges to the local storm drain system. The proposed project may require incidental installation of storm drains or other minor stormwater conveyance infrastructure, which would also tie into the existing Port stormwater conveyance systems.

Photograph 7
Drainage Ditch on Project Site, August 2022

3.3.10.1.2 Flood Hazards

San Joaquin County maintains Flood Insurance Rate Maps, as required by the Federal Emergency Management Agency (FEMA). These Flood Insurance Rate Maps indicate the potential of flooding for various locations. The project site is located in a "Zone X Area," which indicates an area that is outside the 0.2% annual chance of flood (FEMA 2009).

Upstream dam failures could cause flooding in the project area, which is within the dam inundation zone of three major dams, the New Malones, Camanche, and New Hogan dams (City 2018a). Failure of any of these dams would give residents approximately 7 hours to evacuate. Other major regional dams could also affect the City but would have longer evacuation lead times (City 2018a). California SB 92 (2017) requires emergency action plans for all dams, except those classified as "low hazard."

The project area is protected by a levee system along the San Joaquin River and Burns Cutoff. Levee failure has a relatively small probability of occurrence. The Port is responsible for the levee system and has established an annual levee monitoring and inspection program intended to determine whether reinforcement of the structural integrity of the perimeter levee is required (Stockton Port District 2012). Levee monitoring occurs in collaboration with Reclamation Districts 403 and 404. FEMA has certified and accepted most of the levees within the City as meeting minimum standards (City 2018a). Tsunamis and seiches are not considered to be significant threats in the Stockton area (City 2018a).

3.3.10.1.3 Groundwater

The project area occurs within the San Joaquin Valley Groundwater Basin, which is a subsection of the Greater Central Valley Basin. Groundwater in the area is recharged by local precipitation and through percolation from the surrounding surface waters. Groundwater overdraft conditions have existed in the San Joaquin County Basin since the 1920s, although elevations have recovered and stayed relatively constant since 1999 (Stockton Port District 2012).

Although the proposed project would create approximately 4 acres of impermeable surface, the overall change to groundwater recharge would be minimal as runoff in the East Complex is pumped to the stormwater retention basin immediately west of Navy Drive. Once runoff reaches one of these retention basins, it may percolate into the groundwater table.

3.3.10.1.4 Port of Stockton's Storm Water Development Standards Plan

The Port's Storm Water Development Standards Plan (Port 2009) covers new and substantial redevelopments of properties within three subareas to ensure compatibility with the California State Water Resources Control Board-issued Municipal Separate Storm Water Sewer System NPDES Permit. Port Storm Water Development Standards Plan review includes assessment of technical stormwater submittals from project proponents.

3.3.10.2 Impact Evaluation

A: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact After Mitigation. Construction activities associated with the proposed project would include excavation and grading of soils. These activities could pose the potential for water quality impacts during construction. Because the proposed project would include more than 1 acre of ground disturbance, a NPDES Construction Stormwater General Permit addressing these types of impacts would be required. Additionally, construction would be conducted in compliance with the SMP (BIO-MM-2) to ensure material is excavated and consolidated in a safe manner. Construction activities would not occur in areas known to be contaminated.

Proposed project operations may require use, storage, and management of common industrial materials such as lubricants and fuels. The risk for these hazards is low because the quantities of these industrial materials would be limited, and any use of such materials would be per manufacturer procedures compliant with relevant regulations. There would not be a substantial increase in use of common industrial materials compared to baseline conditions.

Water quality impacts from project construction could potentially occur; however, potential impacts to off-site waterbodies and associated wetlands would be avoided through implementation of mitigation measures BIO-MM-1 and BIO-MM-2, which include construction and operational

measures to control spills and runoff. With implementation of these mitigation measures, the proposed project would have less-than-significant impacts on water quality.

B: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-than-Significant Impact. The proposed project footprint occurs within the developed East Complex, in areas surfaced with existing rail lines, compacted soil, or other low to moderately permeable surfaces. Stormwater runoff from proposed impermeable surfaces would continue to flow toward permeable surfaces and percolate directly into the groundwater table or be conveyed to the larger stormwater conveyance system for eventual discharge to the San Joaquin River or return to the groundwater table.

In consideration of the proposed project's minor effects on permeable surfaces and the continued conveyance of stormwater throughout the Port's existing drainage systems, there would be a less-than-significant impact pertaining to groundwater recharge.

C: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in a substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows?

Less-than-Significant Impact After Mitigation. Stormwater runoff would be conveyed via a system of drainage ditches and channels before being pumped into the stormwater retention basin immediately west of Navy Drive.

Construction of the proposed concrete and asphalt surfaces is unlikely to significantly affect drainage, as existing surfaces are low permeability. Given the relatively flat topography and low-permeability surfaces under existing and proposed conditions, nominal increases in stormwater runoff are unlikely to result in substantial siltation or erosion, and the Port regularly maintains the drainage system throughout the East Complex. The proposed project would not result in any alteration to the course of any stream, river, or other waterbodies.

The proposed project would install a retention pond and may require incidental installation of storm drains or other minor stormwater conveyance infrastructure, which would tie into the existing Port stormwater conveyance systems. Any such improvements would be designed and implemented in

compliance with the Port's Storm Water Development Standards Plan (Port 2009) to ensure that adverse water quality or drainage impacts are avoided.

As previously noted, site construction and operations would require use of small quantities of common industrial materials, which could contribute to polluted runoff if improperly managed. Although the risk for these hazards is low given the relatively small scale of construction and operations and commodity material handled, impacts could be potentially significant without mitigation. Mitigation measures BIO-MM-1 and BIO-MM-2 would be implemented to control spills and runoff during construction and operation. With implementation of these mitigation measures, the proposed project would have less-than-significant impacts from inputs of polluted runoff.

D: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The project area is within the dam inundation zone for several dams, and levee systems protect the project site from inundation. There is a low probability for failure of existing dams and levees, and existing inspection and response plans are in place to address these hazards. The project site is not within a FEMA-designated flood hazard area. Therefore, the proposed project would not exacerbate risks related to flood hazards or the risk of stormwater contamination during flooding, and there would be no impact.

E: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less-than-Significant Impact. As previously described, the proposed project would result in only less-than-significant water quality or groundwater impacts. In addition, the proposed project would be subject to Port review for compliance with its Storm Water Development Standards Plan (Port 2009). Therefore, there would be a less-than-significant impact.

3.3.11 Land Use and Planning

	Would the project:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.3.11.1 Affected Environment

The 2040 General Plan (City 2018a) designates the project site as "Industrial," and the zoning classification of the project site and surrounding parcels is "Port" (City 2021b). There is no housing within the project site. The closest residential area, the Boggs Tract neighborhood, is located approximately 1.1 miles east of the project site.

3.3.11.2 Impact Evaluation

A: Would the project physically divide an established community?

No Impact. The project area is zoned as port use and does not include any residences, hospitals, schools, convalescent facilities, or other features that would constitute an established community. The proposed project land use is consistent with the project site's current zoning and existing use. The nearest established community, Boggs Tract, would not be impacted by proposed project activities; therefore, there would be no impact.

B: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. Development of the project site for the purpose of constructing and operating a hydrogen production and filling station is consistent with its existing zoning and use. Accordingly, the proposed project would be consistent with applicable land use plans and policies, and there would be no impact.

3.3.12 Mineral Resources

	Would the project:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.3.12.1 Affected Environment

Important extractive resources in San Joaquin County include sand, gravel, natural gas, peat soil, placer gold, and silver. Extraction of these resources is focused in the southwestern portion of San Joaquin County in the vicinity of the San Joaquin River (Stockton Port District 2013). The project area is classified as a Mineral Resource Zone (MRZ)-1 (California Department of Conservation 2012);

adequate information indicates that no significant mineral deposits are present, or it is judged that little likelihood exists for their presence. The project site does not contain any known mineral resources, including any rock, sand, or gravel.

3.3.12.2 Impact Evaluation

A: Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. Due to the proposed project's location in an MRZ-1, continued development of the area would not limit access to any known mineral resources. As a result, the proposed project would neither interfere with any existing extraction operations nor reduce the availability of any known mineral resources. Therefore, there would be no impact.

B: Would the project 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?

No Impact. The project area does not include a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, there would be no impact.

3.3.13 Noise

	Would the project result in:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b.	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c.	For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

3.3.13.1 Affected Environment

3.3.13.1.1 Fundamentals of Sound and Noise

Sound is what we hear and is defined as the energy of a vibrating object transmitted by pressure waves through a medium, such as air or water, to the human ear. Noise is most simply defined as unwanted sound. The difference between sound and noise depends upon the listener and the circumstances. A given noise may be more or less tolerable depending on the duration exposure, as well as the time of day when the noise occurs. For example, the sound of a distant train horn during the day may be considered background noise but could disrupt sleep at night.

Sound is measured in decibels (dB) and accounts for variations such as frequency and amplitude, using a relative scale adjusted to the human range for hearing (referred to as the A-weighted decibel [dBA]). More specifically, the dBA measures sound reflective of how the average human ear responds to sound; the range of human hearing typically ranges from 0 dBA (the threshold of hearing) to approximately 140 dBA (the threshold for pain). Acceptable noise levels during the day are higher than during the night, and industrial land use in urban areas will have a higher limit than residential land use in rural areas.

Noise can be generated by both mobile (i.e., cars) and stationary (i.e., operational machinery) sources. Mobile sources typically attenuate at a rate of 3.0 to 4.5 dBA per doubling of distance, depending on the ground surface and obstructions between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, typically have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, typically have an attenuation rate of 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate of 6.0 to 7.5 dBA per doubling of distance.

The community noise equivalent level (CNEL) measures the cumulative 24-hour noise exposure, considering not only the variation of the A-weighted noise level but also the duration and the time of day of the noise. Various state and local agencies have adopted CNEL as the measure of community noise, including the State Department of Aeronautics and the California Commission on Housing and Community Development.

Noise is measured through the use of several measurements, including the following:

- **Equivalent Sound Level (L_{eq})** is the constant noise level that would result in the same total sound energy being produced over a given period. It is useful for representing a varying sound source over time as a single number.
- **Maximum Sound Level (L_{max})** is the maximum sound level.
- **Statistical Sound Levels (L_n; e.g., L_{min}, L_{90}, L_{50}, L_{10})** The percentile-exceeded noise level, designated as L_n, describes the noise level that is met or exceeded by a fluctuating sound level n-percent of a stated time period. For example, the L_{50} is the sound level that is equaled

or exceeded for 50% of the time period (equivalent to 30 minutes in an hour), and the L_{10} is the sound level that is equaled or exceeded for 10% of the time period (equivalent to 6 minutes in an hour). L_{min} is the minimum sound level.

- **Day/Night Average Sound Level (L_{dn} or DNL)** is the average noise level over a 24-hour period. The noise level measurements between the hours of 10:00 p.m. and 7:00 a.m. are artificially increased by 10 dB before averaging.

3.3.13.1.2 Fundamentals of Groundborne Vibration

Groundborne vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Each of these measures can be further described in terms of frequency and amplitude. Displacement is the easiest descriptor to understand; it is simply the distance that a vibrating point moves from its static position (i.e., its resting position when the vibration is not present). The velocity describes the instantaneous speed of the movement, and acceleration is the instantaneous rate of change of the speed. Vibrating objects can radiate their energy through the ground upon contact; if the object is large or close enough to an observer, ground vibrations can be perceived. As such, environmental impact analyses typically study vibration as it relates to building damage and human annoyance. However, because ground vibration generated by human activities typically attenuates rapidly from the source of vibration, human vibration issues are usually confined to short distances, such as 500 feet or less from the source (FHWA 2006a).

Although displacement is fundamentally easier to understand than velocity or acceleration, it is rarely used for describing groundborne vibration because: 1) human response to groundborne vibration correlates more accurately with velocity or acceleration; 2) the effect on buildings and sensitive equipment is more accurately described using velocity or acceleration; and 3) most transducers used in the measurement of groundborne vibration actually measure either velocity or acceleration. For this study, velocity was the fundamental measure used to evaluate the effects of groundborne vibration.

Vibration consists of rapidly fluctuating motions with an average motion of zero. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The accepted unit for measuring PPV in the United States is inches per second (in/sec).

3.3.13.1.3 Environmental Setting

Existing noise in the project area can be attributed to various stationary and mobile sources, including tractor-trailer truck traffic, rail activity, and adjacent industrial equipment (Port 2004). Other sources that contribute to the existing noise environment in the general site vicinity include landscaping activities (e.g., leaf blowing and lawn mowing) and local and regional roadway traffic on nearby local roads and highways (i.e., I-5 and State Routes 4 [SR-4] and 99 [SR-99]). Noise monitoring previously conducted for the West Complex Development Plan concluded that the L_{eq} on

nearly Rough and Ready Island (the West Complex) generally ranges between 60 and 84 dBA, with higher levels from short-term increases in noise levels 85 dBA or higher.

Noise-sensitive land uses are generally considered to be uses in which noise exposure could result in health-related risks to individuals or places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other land uses, such as parks, historic sites, cemeteries, and other recreation areas, are also considered sensitive to increases in exterior noise levels. Schools, places of worship, hotels, libraries, nursing homes, retirement residences, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

3.3.13.1.4 Regulatory Setting

The Occupational Safety and Health Administration (OSHA) has established acceptable occupational noise exposure levels (29 *Code of Federal Regulations* [CFR] 1910.95). These regulations state that employees shall not be exposed to occupational noise levels greater than 90 dB without adequate hearing protection. If occupational noise levels exceed 85 dB, the employer must establish a hearing conservation program as described under 29 CFR 1910.95(c–o). For occupational noise exposure levels greater than 90 dB, the daily period of noise exposure must be decreased from 8 hours, as described under 29 CFR 1910.95(b).

The USEPA Office of Noise Abatement and Control was established to coordinate federal noise control activities and issued the Noise Control Act of 1972 (42 *United States Code* 4901 et seq.), establishing programs and guidelines to identify and address the effects of noise on public health and welfare and the environment. USEPA determined in 1981 that subjective issues such as noise would be better addressed at lower levels of government, and responsibilities for regulating noise control policies were transferred to state and local governments in 1982.

The State of California General Plan Guidelines, published by the OPR, provide guidance for the acceptability of projects within areas that are exposed to specific noise levels. For areas zoned for industrial, manufacturing, utilities, and agricultural land uses, the normally acceptable level of community noise exposure is less than 75 CNEL with 70 to 80 CNEL considered conditionally acceptable (OPR 2017). The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

For the protection of fragile, historic, and residential structures from groundborne vibration, Caltrans recommends a threshold of 0.2 in/sec PPV for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures (Caltrans 2020).

The City has developed community noise control regulations and standards that are consistent with or exceed the guidelines of the State Office of Noise Control and the standards adopted by the Federal Highway Administration (FHWA), Caltrans, and other government and regulatory agencies (City Municipal Code Title 16, Division 3, Chapter 16.60). Regarding construction, the City prohibits "operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work between the hours of 10:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities." State law requires general plans to use the CNEL or the L_{dn} to describe the community noise environment (in dBA) and its effects on the population.

The 2040 General Plan (City 2018a) establishes goals, policies, and criteria for determining land use compatibility with major noise sources within the community. The 2040 General Plan includes Policy SAF-2.5, which protects the community from health hazards and annoyance associated with excessive noise levels.

Policy SAF-2.5 includes the following standards:

- Action SAF-2.5A: Prohibit new commercial, industrial, or other noise-generating land uses adjacent to existing sensitive noise receptors, such as residential uses, schools, health care facilities, libraries, and churches, if noise levels are expected to exceed 70 dBA CNEL when measured at the property line of the noise-sensitive land use.
- Action SAF-2.5B: Require projects that would locate noise-sensitive land uses where the projected ambient noise level is greater than the "normally acceptable" noise levels listed in Table 5-1 of the 2040 General Plan (included below as Table 13) to conduct an acoustical analysis. (As noted in Table 5-1 of the 2040 General Plan, if existing noise standards are exceeded, a proposed project shall not incrementally increase noise levels by more than 3 dBA.)
- Action SAF-2.5C: Require noise produced by commercial uses to not exceed 75 dBA L_{dn}/CNEL at the nearest property line.
- Action SAF-2.5D: Grant exceptions to the noise standards for commercial and industrial uses only if a recorded noise easement is conveyed by the affected property owners.
- Action SAF-2.5E: Require all new habitable structures to be set back from railroad tracks to protect residents from noise, vibration, and safety impacts.

Table 13
Maximum Allowable Noise Exposure by Land Use Per City of Stockton 2040 General Plan (L_{dn})

Land Use	Noise Level, L_{dn} (dBA)						
	0–55	56–60	61–65	66–70	71–75	75–80	>81
Residential							
Urban residential infill							
Hotels, motels							
Schools, libraries, churches, hospitals, extended care facilities							
Auditoriums, concert halls, amphitheaters							
Sports arenas, outdoor spectator sports							
Playgrounds, neighborhood parks							
Golf courses, riding stables, water recreation, cemeteries							
Office buildings, business commercial and professional							
Mining, industrial, manufacturing, utilities, agriculture							

Notes:
Source: City 2018a
Normally Acceptable
Conditionally Acceptable
Unacceptable

3.3.13.2 Impact Evaluation

A: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact. The City's noise regulations and standards apply to operations of the proposed project. Specifically, the 2040 General Plan regulates industrial uses with L_{dn} of 70 dBA and below as "normally acceptable" and between 71 and 80 dBA as "conditionally acceptable" following the incorporation of noise reduction features. Noise levels above 80 dBA are considered unacceptable. The City's noise ordinance also requires that the maximum sound level generated by industrial land uses, or other permitted noise-generating activities within any industrial zoning district, remain below 80 dBA. Previous noise monitoring conducted on the Port's West Complex determined that the existing L_{dn} near the project site ranges between 60 and 84 dBA, with higher levels from short-term increases in noise levels 85 dBA or higher. As shown, existing ambient noise levels exceed the City's guidance levels.

Noise attenuates with distance from the source. Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, and senior care facilities would each be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise. The closest non-mobile sensitive receptor is the Boggs Track neighborhood, located approximately 1.1 miles (5,800 feet) east of the project site. Other sensitive receptors in the vicinity of the project site include the San Joaquin River, located approximately 485 feet west of the project site and used for recreation, and Louis Park and Stockton Rod and Gun Club (both are approximately 0.9 mile northwest of the project site).

Construction activities typically require the use of numerous pieces of noise-generating equipment. These activities would temporarily increase ambient noise levels on an intermittent basis. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. Table 14 presents the typical noise level of proposed construction equipment for the proposed project and the reference noise levels that each equipment type would generate.

Table 14
Roadway Construction Noise Model Default Noise Emission Reference Level at 50 Feet by Phase

Major Equipment	Reference Sound Level at 50 feet (dBA)
Phase 1: Mobilization	
Welder	73
Generator	82
Forklift	80[1]
Phase 2: Site Preparation (Excavation, Grading, Paving, and Construction of Slabs on Grade)	
Tractor	84
Excavator	85
Grader	85
Loader	80
Dozer	85
Air compressor	80
Backhoe	80
Welder	73
Generator	82
Scraper	85
Forklift	80[1]
Phase 3: Civil (Trenching, Testing, and Cover of Underground Piping/Conduit/Ground Grid, Foundation Forms, Re-Steel Assembly, and Concrete Pours)	
Generators (2)	82

Major Equipment	Reference Sound Level at 50 feet (dBA)
Excavator	85
Grader	85
Loader	80
Paver	85
Air compressor	80
Backhoe	80
Welder	73
Forklift	80[1]
Phase 4: Installation of Hydrogen-production Equipment	
Cranes (2)	85
Forklift	80[1]
Generators (2)	82
Welder	73
Air compressor	80
Phase 5: Electrical and Pipeline Interconnections	
Generators (2)	82
Welders (3)	73
Phase 6: Commissioning/Test of System	
No equipment required	
Phase 7: Demobilization	
Dozer	85
Tractor	84
Loader	80
Grader	85
Air compressor	80
Paver	85

Note:
1. The actual measurement for forklift was not sampled; therefore, the specification data were used.
Source: *FHWA Roadway Construction Noise Model User's Guide* (FHWA 2006b)

To calculate proposed project construction noise impacts to sensitive receptors in the recreational area west and south of the project area, major construction equipment types/numbers characteristic of each construction phase were input into the FHWA Roadway Construction Noise Model (FHWA 2006b). This model estimates construction noise levels at selected locations around the construction site based on a database of measured equipment noise generation for each equipment type and the application of source-receptor distance acoustical propagation formulas. As a conservative approach, no shielding was assumed. As shown in Table 14, the proposed project's construction noise levels would be within the existing range for ambient noise levels in the area and

below the City's maximum noise level for industrial uses. Table 15 shows that the model indicates the L_{max} of combined noise equipment would be 43.7 dBA at 5,800 feet from the project site (the closest distance from non-mobile sensitive receptors), and the L_{eq} would be 39.7 dBA, both of which are well below both the existing range for ambient noise levels in the area (60 to 84 dBA) and the City's maximum noise level for industrial uses (80 dBA).

Table 15
Construction Daytime Noise Limits and Exceedances

Equipment	Calculated (dBA)		Noise Limits (dBA)		Noise Limit Exceedance (dBA)	
	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}
Welders (up to 3)	32.7	28.7	80	60	None	None
Generators (up to 2)	39.3	36.3	80	60	None	None
Tractor	42.7	38.7	80	60	None	None
Excavator	39.4	35.4	80	60	None	None
Grader	43.7	39.7	80	60	None	None
Loader	37.8	33.8	80	60	None	None
Dozer	40.4	36.4	80	60	None	None
Air compressor	36.4	32.4	80	60	None	None
Backhoe	36.3	32.3	80	60	None	None
Scraper	42.3	38.3	80	60	None	None
Paver	35.9	32.9	80	60	None	None
Forklift	38.7	35.7	80	60	None	None
Total	**43.7**	**39.7**	**80**	**60**	**None**	**None**

Notes:
The L_{max} noise limit is representative of the maximum volume permitted by the City for industrial uses.
Per previous noise analyses conducted, the existing day-night noise level (DNL) near the project site on Rough and Ready Island ranges between 60 and 84 dBA (Port 2004). To analyze noise increases conservatively, a baseline of 60 dBA was used as the hourly L_{eq} limit. Evening and night noise has not been analyzed because construction would not occur during evening hours (7:00 p.m. to 10:00 p.m.) or nighttime hours (10:00 p.m. to 7:00 a.m.).

The City's noise regulations and standards also apply to operations of the proposed project. The 2040 General Plan further defines noise standards for industrial uses located adjacent to noise-sensitive land uses such as residential and zoning districts (City 2018a). In this case, the project site does not occur adjacent to noise-sensitive land uses. Operational sources include trucks, rail, and hydrogen production equipment system. As previously noted, operations would occur at least approximately 5,800 feet from the closest non-mobile sensitive receptor (Boggs Track neighborhood). While the proposed project would result in new operations at the project site, proposed operations

would be consistent with the types of existing nearby activities (truck and rail trips). In addition, the project site is surrounded by fences, stockpiles, staged equipment, buildings, and structures that would help shield noise and would not be heard at the closest residential receptors.

Based on the analyses above, the proposed project would result in a less-than-significant impact related to construction and operational noise.

B: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Unless heavy construction activities are conducted extremely close (within a few feet) to neighboring structures, vibrations from construction activities rarely reach levels that damage structures. Typical vibration levels associated with construction equipment are provided in Table 16. Heavy equipment (e.g., a large bulldozer) generates vibrations levels of 0.089 in/sec PPV at a distance of 25 feet.

Table 16
Vibration Velocities for Construction Equipment

Equipment	PPV at 25 feet (in/sec)
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer/backhoe	0.003
Heavy equipment (e.g., a large bulldozer)	0.089

Source: FHWA 2006a

The construction vibration damage criterion for buildings that are extremely susceptible to vibration damage is 0.12 in/sec PPV. This is the strictest PPV vibration threshold established by the Federal Transit Administration (FTA). The nearest building to the construction area would be approximately 90 feet to the south, and the nearest residential sensitive receptors is approximately 5,800 feet to the east. The typical vibration level from heavy equipment at this distance would be less than 0.035 in/sec PPV, which would not exceed the FTA damage criteria.

Proposed project operations would create some groundborne vibrations due to truck and rail movements. However, the project area is industrial, and any vibrations produced as a result of proposed project operations would be low and infrequent. Because the construction-related vibration would not exceed FTA thresholds, the proposed project would result in a less-than-significant impact related to construction vibration. Due to the industrial nature of the area and the anticipated low and infrequent emissions of vibrations, proposed project-related operational vibration would result in a less-than-significant impact.

C: For a project located within the vicinity of a private airstrip or 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?

No Impact. There are no public airports located within 2 miles of the project area. The nearest public airport is the Stockton Metropolitan Airport, located nearly 5.7 miles southeast from the project site. The project site is not located in the vicinity of a private airstrip. Because of the distance of the project site from the nearest public airport or private airstrip, the proposed project would not expose people residing or working in the project area to excessive noise levels. There would be no impact.

3.3.14 Population and Housing

	Would the project:	Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Induce substantial unplanned 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)?	☐	☐	☐	☒
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.3.14.1 Affected Environment

The 2040 General Plan (City 2018a) designates the project area as "Industrial." The zoning designation for the project area and surrounding parcels is Port. There is no housing within the project area. The closest residential community is the Boggs Tract neighborhood, located 1.1 miles east of the project site.

Growth at the Port is expected to increase direct employment opportunities; however, this increase in employment is not expected to result in a significant need for additional housing in the area because of the large number of workers who already reside within the area and the relatively high rate of unemployment for the City (5.7% for June 2022; CEDD 2022a) compared to the State of California (4.0% for June 2022; CEDD 2022b) and the United States (3.6% for June 2022; BLS 2022; Port 2004).

3.3.14.2 Impact Evaluation

A: Would the project induce substantial unplanned 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)?

No Impact. No new homes, businesses, or roads would be built as part of the proposed project, and the proposed project would not affect population growth in the area. Therefore, there would be no impact.

B: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would not impact the Boggs Tract neighborhood or any other housing near the Port. The proposed project would have no effect on existing residential areas, and the project site's zoning precludes the potential for future housing developments. Therefore, the proposed project would have no impact on housing.

3.3.15 Public Services

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	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:				
Fire protection?		☐	☐	☐	☒
Police protection?		☐	☐	☐	☒
Schools?		☐	☐	☐	☒
Parks?		☐	☐	☐	☒
Other public facilities?		☐	☐	☐	☒

3.3.15.1 Affected Environment

3.3.15.1.1 Fire Protection

The City's Fire Department provides fire protection to the City and contiguous areas, including the project site. The department has 12 fire stations, each with one fire engine (City 2018b). The department's goal for response time, per the 2040 General Plan (City 2018a), is to arrive at fire suppression incidents within 4 minutes of notification. Nearby fire stations include Station 6 at 1501 Picardy Drive (1.8 miles northeast of the proposed facility) and Station 2 at 110 West Sonora Street (2.6 miles east of the proposed facility; City 2018b).

3.3.15.1.2 Police Protection

The Port maintains the Port Police Department, an independent certified police agency (Port 2022c). The Port Police Department patrols on a 24-hour basis and is currently served by 13 staff. At least three Port police officers are on duty simultaneously (two on patrol and one in charge of communications). The Port Police Department has mutual aid agreements with the City Police Department, the San Joaquin Sheriff's Department, and the California Highway Patrol in case additional police response is needed (Port 2004). The Stockton Police Department, maintained by the City, also provides police service throughout the City and has an officer to citizen ratio of approximately 1 to 605 (City 2022a). The department responds to emergencies within approximately 3 to 5 minutes, depending on time of day, location, and the number of requests for services (Stockton Port District 2012).

3.3.15.1.3 Schools

The Stockton Unified School District is divided into seven trustee areas and includes 37 Head Start classes, 53 State preschool classes, three First 5 Preschool classes, 41 elementary schools, eight high schools, a special education school, an adult education school, and five charter schools (SUSD 2019). There are also colleges, universities, and vocational training schools that are located in Stockton, including California State University, Stanislaus's Stockton Center, San Joaquin Delta College, University of the Pacific, Humphreys University, Christian Life College, Teachers College of San Joaquin, and UEI College (Stockton Port District 2012). The nearest schools are George Washington Elementary School, approximately 1.4 miles east of the proposed facility, and Victory Elementary School, approximately 1.5 miles northeast of the proposed facility.

3.3.15.1.4 Parks

The 2040 General Plan (City 2018a) designates the project area as Industrial. Nearby parks include Louis Park, approximately 0.9 mile northwest of the proposed facility, and Boggs Tract Park, approximately 1.3 miles west of the proposed facility.

3.3.15.2 Impact Evaluation

A: 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: 1) fire protection; 2) police protection; 3) schools; 4) parks; or 5) other public facilities?

No Impact. The proposed project would not result in increased demand on any existing facilities or services, including fire protection, police, schools, or parks. The project area is adequately served by

the City Fire Department, City Police Department, and Port Police Department. There would be no impact to fire protection, police, schools, parks, or other public facilities.

3.3.16 Recreation

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
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?	☐	☐	☐	☒
b.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.3.16.1 Affected Environment

The City operates and maintains 66 parks ranging in size from 1 to 60 acres (City 2018a). Recreational facilities can also be found on the waterways in the region, which include natural rivers and creeks; manufactured canals, channels, sloughs, and ditches; and the Delta (City 2015). Several parks and recreational facilities exist in the vicinity of the project area, including Boggs Tract Park (1.3 miles east of the project site) and Louis Park and Stockton Rod and Gun Club (both are approximately 0.9 mile northwest of the project site). Recreational use of the surrounding San Joaquin River west of the project area includes primarily recreational boating and fishing (Stockton Port District 2013). There is no public access to the active Port, and the portion of the river directly adjacent to the proposed project is not a popular recreational area due to the Port's operating industrial berths.

3.3.16.2 Impact Evaluation

A: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. Neither construction nor operation of the proposed project would increase the use of existing neighborhood and regional parks or other recreation facilities. Therefore, there would be no impact.

B: Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The proposed project does not include the construction or expansion of any recreational facilities and would not result in increased demand or other effects to recreational facilities. Therefore, the proposed project would result in no impact to recreational facilities.

3.3.17 Transportation

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b.	Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	☐	☐	☒	☐
d.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e.	Result in inadequate emergency access?	☐	☐	☐	☒

3.3.17.1 Affected Environment

This section discusses the transportation-related context in which the proposed project would be constructed and operate, including the street and rail network that serves the area; existing transit service, bicycle, and pedestrian facilities near the proposed project; and a summary of current conditions.

3.3.17.1.1 Regional Highway and Roadways

The Port is served by regional freeways and highways, namely I-5, SR-4, and SR-99, with local roads serving the terminals and wharves. I-5, Fresno Avenue, and Center Street serve the major north-south movements of traffic in the proposed project vicinity, and Washington Street, Navy Drive, and Charter Way serve the east-west flow of traffic in the area. Existing roadways are as follows:

- **SR-4** is a major east-west roadway that traverses Northern California. SR-4 branches off from I-80 in the City of Hercules, and continues east, terminating at SR-89 near the border of Nevada. Within the study area, SR-4 is discontinuous. The western segment (Charter Way) is a two-lane highway that continues east of I-5 as Doctor Martin Luther King Junior Boulevard. The eastern segment is a six-lane freeway that begins north of Navy Drive and continues east to SR-99. Caltrans opened the Crosstown Freeway Extension project in 2016, which extended the Crosstown Freeway (Ort J. Lofthus Freeway) west from Fresno Avenue to Navy Drive. The

extension is elevated and crosses over Fresno Avenue, creating a grade separation that now prohibits highway traffic from entering the Boggs Tract neighborhood at Fresno Avenue.

- **I-5** is a major north-south freeway that traverses through California, Oregon, and Washington. Within the study area, I-5 is a six- to eight-lane freeway. North of Charter Way, I-5 has three general-purpose lanes and one high occupancy lane in each direction. South of Charter Way, I-5 has three general-purpose lanes in each direction.
- **McCloy Avenue** is a two-lane east-west collector located in the Port of Stockton. McCloy Avenue begins at Humphreys Street and continues east as Navy Drive in the City of Stockton. There are no sidewalks or bicycle facilities on McCloy Avenue.
- **Port of Stockton Expressway** is a two-lane north-south arterial located between McCloy Avenue and SR-4/Charter Way in the Port of Stockton. There are no sidewalks or bicycle facilities on Port of Stockton Expressway.
- **Navy Drive** is an east-west arterial that extends from McCloy Avenue and continues east before terminating at Charter Way. Navy Drive is four lanes between McCloy Avenue and Tille Lewis Drive and two lanes between Tille Lewis Drive and Charter Way. Navy Drive is classified as a truck route by the City. There are no sidewalks or bicycle facilities on Navy Drive.
- **Fresno Avenue** is a two-lane north-south collector located between Harbor Street in the north to Houston Avenue in the south. Fresno Avenue is classified as a truck route north of SR-4/Charter Way. Between Hazelton Avenue and Charter Way, Fresno Avenue is surrounded by mainly industrial land uses. There are very few sidewalks and no bicycle facilities on Fresno Avenue north of Charter Way.
- **Washington Street** is a two-lane east-west arterial that is located between Navy Drive and Weber Avenue. Washington Street is classified as a truck route and used to serve as a primary truck route before the SR-4/Navy Drive connector was constructed. There are very few sidewalks and no bicycle facilities on Washington Street.

3.3.17.1.2 Rail Network

California's freight railroad system consists of Class I railroads (BNSF and Union Pacific Railroad [UP]), which transport freight to and from the state over state lines, and Class III railroads, referred to as shortline railroads, which provide local rail movements. Both UP and BNSF lines serve the Port. In Northern California, the Martinez Subdivision, Feather River Canyon, and Donner Pass routes serve the ports of Oakland and Stockton; these routes are owned and dispatched by UP but serve BNSF through trackage right agreements. BNSF operates the Stockton Intermodal Facility on the southeast edge of the City, and UP operates a major intermodal facility and other terminal operations in Lathrop, California. Several shortline railroads also operate in Stockton. Central California Traction Company (CCT), jointly owned by BNSF and UP, operates 52 miles of freight service between Stockton and Lodi and is the shortline operator for the Port. CCT connections are made with BNSF, UP, and the Stockton Terminal and Eastern Railroads, which run from Stockton to Linden (City

2018a). The Port provides its own internal railway system. CCT provides all switching and local movements within the Port.

3.3.17.1.3 Public Transit

Transit in the study area is provided by San Joaquin Regional Transit District, which is the regional transit provider for San Joaquin County and the Stockton Metropolitan Area. Access to the project site is very limited via transit, with the closest transit stops being located approximately 2 miles away. The closest transit routes serving the Boggs Tract community are as follows:

- **Route 515** operates weekdays between 5:30 a.m. and 7:00 p.m. and provides service between Boggs Tract and Downtown Stockton. The route operates with headways of approximately 60 minutes.
- **Route 715** operates weekends between 9:00 a.m. and 6:00 p.m. and provides service between Boggs Tract and Downtown Stockton. The route operates with headways of approximately 60 minutes.

3.3.17.1.4 Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are extremely limited within the Port. There are no bicycle lanes, and most roads are private and do not include sidewalks.

3.3.17.2 Regulatory Setting

Traffic analyses in California are guided by policies and standards set at the State level by Caltrans and local jurisdictions. Caltrans policies are applicable to the proposed project and are summarized in Caltrans's *Guide for the Preparation of Traffic Impact Studies*, which provides a summary of goals and policies (Caltrans 2002). Per the Caltrans guidebook, the appropriate level of traffic analysis is determined by the nature of a project, highway conditions, and forecasted traffic. If a project meets the following criteria, this provides a starting point for determining whether a traffic impact study is needed:

- The project would generate more than 100 peak-hour trips assigned to a state highway facility.
- The project would generate 50 to 100 peak-hour trips assigned to a state highway facility, and affected state highway facilities are experiencing noticeable delay, approaching unstable traffic flow conditions (Level of Service [LOS] C or D).
- The project would generate 1 to 49 peak-hour trips assigned to a state highway facility, and: 1) affected state highway facilities are experiencing significant delay with unstable or forced traffic flow conditions (LOS E or F); 2) the potential risk for a traffic incident is significantly increased (e.g., congestion-related collisions, non-standard sight distance considerations, and increase in traffic conflict points); or 3) the project would cause changes in local circulation networks that impact a state highway facility (e.g., direct access to state highway facility or a non-standard highway geometric design).

SB 743, signed by Governor Brown in 2013, is intended to better align congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions. SB 743 has set the stage for moving away from LOS, which measures delay to motorists, to vehicle miles traveled (VMT) as the metric to evaluate transportation network performance and land use and transportation planning decisions through CEQA. Specifically, SB 743 required OPR to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts.

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the CEQA Guidelines section implementing SB 743. Under the updated CEQA Guidelines, the CEQA analysis must consider the amount and distance of automobile travel attributable to a project. OPR issued a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory; OPR 2018), which provides general guidance on VMT analyses in the absence of regional guidance and defines automobiles as on-road passenger vehicles, specifically cars and light trucks. Other relevant considerations may include the effects of the project on transit and non-motorized travel. SB 743 also amended congestion management law to allow cities and counties to opt out of LOS standards within certain infill areas. Transportation impacts related to air quality, noise, and safety must still be analyzed under CEQA where appropriate (PRC 21099[b][3]). Under PRC 21099, automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment (*Citizens for Positive Growth & Preservation v. City of Sacramento*).

The CPUC has legal regulatory authority over rail safety within California, including operations and grade crossings throughout the state. However, rail operations under the proposed project are not subject to approval or modification by the commission because no grade crossings would be added or modified.

SJCOG has developed a Regional Transportation Plan (RTP), which guides the region's transportation development over a 20-year period and covers all modes of transportation. The RTP is updated every 3 years to reflect changes in available funding, economic activity, and population and to incorporate findings from corridor studies and major infrastructure investments. The projects included in the RTP are also assessed as to their effect on air quality because the RTP is used in the SIP to ensure states are meeting federal conformity standards. If a project is included in the RTP, its effect on regional conformity goals has been accounted for. The current 2018 RTP was adopted by the SJCOG Board in June 2018. The City is responsible for coordination with regional transportation plans.

SJCOG has formed a SB 743 Technical Working Group to address shifting from LOS to VMT in local agency and SJCOG CEQA analysis, and adapting related SJCOG programs such as the RTP, if necessary. No draft guidance is available at this time.

The 2040 General Plan (City 2018a) guides the maintenance, design, and operation of transportation, including streets and highways, within the project area. The following goals and policies applicable to the Port and proposed project are provided for transportation:

- **Policy TR-1.1:** Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.
  - Action TR-1.1A: Direct truck traffic to designated truck routes that facilitate efficient goods movement and minimize risk to areas with concentrations of sensitive receptors, such as schools, for example, by disallowing any new truck routes to pass directly on streets where schools are located, and vulnerable road users, such as pedestrians and bicyclists.
  - Action TR-1.1B: Maintain and periodically update a schedule for synchronizing traffic signals along arterial streets and freeway interchanges to facilitate safe and efficient movement of people and goods and to provide signal priority for transit vehicles at intersections.
  - Action TR-1.1C: Require roadways in new development areas to be designed with multiple points of access and to address barriers, including waterways and railroads, in order to maximize connectivity for all modes of transportation.
  - Action TR-1.1D: Update existing Precise Road Plans to reflect the 2040 General Plan, including changes in land use and LOS requirements, and a shift in priority from vehicular travel to travel by all modes through complete streets.
- **Policy TR-1.2:** Enhance the use and convenience of rail service for both passenger and freight movement.
  - Action TR-1.2C: Provide grade separations at railroad crossings on arterial streets where feasible to ensure public safety and minimize traffic delay.
- **Policy TR-1.3:** Facilitate expanded port and airport operations, service, and development as travel and goods movement assets to the community and sources of employment growth.

As noted above, SB 743 requires moving from LOS to VMT as the metric to evaluate transportation network performance and land use and transportation planning decisions, with investments oriented toward reducing VMT. The 2040 General Plan (City 2018a) includes the following policies related to integrating SB 743 into future planning:

- **Policy TR-4.1:** Utilize LOS information to aid understanding of potential major increases to vehicle delay at key signalized intersections.
  - Action TR-4.1A: Strive for LOS D or better for both daily roadway segment and peak-hour intersection operations, except when doing so would conflict with other land use, environmental, or economic development priorities, and with the following additional exceptions:

        - In the Greater Downtown, strive for LOS E or better, but LOS F may be acceptable after consideration of physical or environmental constraints and other City goals and policies.
        - Roadway segments determined to be operating at deficient LOS by SJCOG in the Regional Congestion Management Program
        - Accept worse than adopted-standard LOS at intersections where widening the intersection would reduce bicycle and pedestrian safety and/or increase pedestrian crossing times such that they would create longer traffic delays due to signal timing.
    - Action TR-4.1B: Amend the City's Transportation Impact Analysis (TIA) Guidelines to reflect the updated LOS goals under Action TR-4.1.A and to refine the threshold at which a project needs to evaluate LOS impacts.
- **Policy TR-4.2:** Replace LOS with: 1) VMT per capita; and 2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under CEQA, in accordance with SB 743.
    - Action TR-4.2A: To evaluate the effects of new development and determine mitigation measures and impact fees, require projects to evaluate per capita VMT and impacts to transit, bicycle, and pedestrian modes.
    - Action TR-4.2B: Amend the City's TIA Guidelines to include alternative travel metrics and screening criteria.
- **Policy TR-4.3:** Use the threshold recommended by OPR for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements.
    - Action TR-4.3A: Amend the City's TIA Guidelines to: 1) establish a threshold of 15% below baseline VMT per capita to determine a significant transportation impact under CEQA; and 2) identify screening criteria that will streamline certain types of development and/or development in certain areas by not requiring a VMT analysis.

Consistent with Policy TR-4.3, the City is updating its TIA Guidelines (expected to be finalized in 2023) based on guidance from the OPR, as documented in the OPR Technical Advisory (December 2018). The Draft TIA Guidelines established the following VMT thresholds for the most common land uses:

- **Residential:** 15% below the City-wide average for home-based VMT per resident
- **Office:** 15% below the City-wide average for home-based work VMT per employee
- **Retail and Other Land Uses:** To be established on a case-by-case basis, reflecting the City's commitment to achieving VMT reductions while also being sensitive to the characteristics of the project being evaluated. For a retail project, the threshold is no net increase in total VMT.

Per the 2018 CEQA Guidelines Update, CEQA analyses must consider the amount and distance of automobile travel attributable to a project. Other relevant considerations may include a project's effects on transit and non-motorized travel. Consistent with the 2018 CEQA Guidelines and SB 743, the City is updating its traffic guidelines. While LOS is no longer a CEQA threshold, the City is continuing to assess increases in traffic levels in addition to VMT to adequately plan and manage traffic congestion on the City's roadways and intersections. Accordingly, traffic impact analyses are conducted for projects generating 110 or more vehicle trips during the morning or evening peak hours.

The CPUC has legal regulatory authority over rail safety within California, including operations and grade crossings throughout the state. CPUC is the state agency with exclusive jurisdiction over rail crossings in California. CPUC engineers evaluate the safety of rail crossings and review proposed construction where roadways or pathways cross railroad or rail transit tracks.

3.3.17.3 Impact Evaluation

A: Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less-than-Significant Impact. No transit services are provided to the Port or to the project site. The nearest transit service is the local 515 bus line stop at the Boggs Track Community Center, located approximately 1.3 miles from the project site. There are very few pedestrian and bicycle facilities within the Port. The project site does not propose any pedestrian or bicycle facilities on Forrestal Village Road or Navy Drive. Therefore, there is no conflict with any roadway, bicycle, and pedestrian plans.

As discussed above, while the automobile delay is no longer considered an environmental impact as per the 2019 CEQA guidance, vehicle levels and queueing impacts are still relevant to CEQA impact analyses where a project has the potential to cause safety hazards or localized traffic delays requiring new signaling or infrastructure upgrades. The City's Draft Transportation Analysis Guidelines retain intersection analysis requirements for projects that generate more than 2,000 daily trips and may also require this information for projects that generate 110 to 2,000 daily trips based on a set of variables contained in the City's Draft TIA Guidelines. Specific to the proposed project, the City's TIA Guidelines require the preparation of a TIA for any project estimated to generate more than 110 new morning or afternoon peak-hour trips. Peak morning periods in the City are 7:00 a.m. to 9:00 a.m., and the peak afternoon periods are 4:00 p.m. to 6:00 p.m. Consistent with the City's TIA guidance, trip generation rates were determined to estimate the amount of vehicular traffic a project will add to the surrounding roadway system during construction and operations. As noted in Section 3.3.17.2, Caltrans also provides guidance for determining whether a project requires a traffic impact study.

Construction. Except for the initial movement of construction equipment to the site at the start of construction and eventual movement from the site at the end of construction, construction of the proposed project would not affect roads or other transportation corridors. Up to a total of 68 truck and employee trips per day are anticipated during the most intensive construction phase. Therefore, construction-related traffic would remain under the threshold of 110 trips new trips during peak hours, and a TIA would not be required.

Operations. As discussed in Section 2.3, it is expected that there would be approximately 8 to 10 commercial trailers entering and exiting the site daily. Two to three staff vehicles are expected to enter and exit the site daily. Therefore, operation-related traffic would remain under the threshold of 110 trips new trips during peak hours, and a TIA would not be required.

Because construction and operation-related traffic would remain under the threshold of 110 trips, impacts would be less-than-significant.

B: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?

Less-than-Significant Impact. CEQA Guidelines Section 15064.3(b) describes specific considerations for evaluating a project's transportation impacts and notes that VMT is the most appropriate measure of transportation impacts consistent with SB 743.

As of July 1, 2020, the provisions of SB 743 Section 15064.3 became effective statewide. This legislation changed the CEQA requirements for assessing transportation impacts whereby delay and congestion is no longer considered an environmental impact. The new metric, VMT, correlates directly with air quality and climate change impacts. VMT impacts require mitigation measures that reduce miles traveled per employee or resident populations. For this reason, OPR guidance focuses on automobile traffic and does not mention freight (commercial trucks). CEQA Section 15064.3 defines VMT as the amount and distance of automobile travel attributable to a project. The OPR Technical Advisory defines automobile as on-road passenger vehicles, specifically cars and light trucks. The OPR Technical Advisory does not provide specific guidance for industrial projects but focuses on VMT generated by project employees for commercial land uses. Accordingly, proposed project-generated truck trips do not need to be evaluated for transportation impacts. However, commercial truck trips and associated VMT are disclosed in the transportation section of this report to provide consistency with VMT used for analyzing other resource areas, notably air quality. Regarding employee trips, per the OPR Technical Advisory, "projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."

The transportation analysis follows the City's Draft Transportation Impact Analysis Guidelines dated September 2021, which are expected to be finalized in 2023. Consistent with OPR Technical Advisory, the City's Draft Transportation Impact Analysis Guidelines screen out projects that generate fewer

than 110 trips per day and do not require analysis of VMT associated with project-generated commercial truck activity. For projects that do require a VMT assessment, The City's VMT analysis follows OPR guidance, including application of the following VMT thresholds for the most common land uses:

- **Residential:** 15% below the Citywide average for home-based VMT per resident
- **Office:** 15% below the Citywide average for home-based work VMT per employee
- **Retail and Other Land Uses:** To be established on a case-by-case basis, reflecting the City's commitment to achieving VMT reductions while also being sensitive to the characteristics of the project being evaluated. For a retail project, the threshold is no net increase in total VMT.

VMT impacts for a proposed project would be less-than-significant if any one of the identified screening criteria outlined below are met:

1. Small Projects: The proposed project generates fewer than 110 vehicle trips per day.
2. Low-VMT Areas: The proposed project meets map-based screening criteria by being located in an area that exhibits below threshold VMT, or 15% or more below the regional average.
3. Major Transit Stop: The proposed project is located in a Transit Priority Area or within 0.5 mile of a major transit stop[4] or high-quality transit corridor[5] and satisfies all of the following:
    a. Has a Floor Area Ratio of greater than 0.75
    b. Does not include more parking for use by residents, customers, or employees than other typical nearby uses, or more than required by the City
    c. Is consistent with the applicable Sustainable Communities Strategy (as determined by the lead agency)
    d. Does not replace affordable residential units with a smaller number of moderate- or high-income residential units
4. Affordable Residential Development: The proposed project must be 100% affordable residential development in an infill location.

The proposed project meets the criteria of a small project listed above. As discussed in TRA-1, proposed project operations would generate approximately eight to ten commercial trailers daily with

[4] CEQA Guidelines Section 21064.3 defines a "major transit stop" as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during morning and afternoon peak commute times.
[5] CEQA Guidelines Section 21155(b) defines a "high quality transit corridor" as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

two to three staff vehicles expected to enter and exit the site and therefore is below the 110 trips a day threshold. Therefore, impacts would be less-than-significant.

C: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-than-Significant Impact After Mitigation. Although automobile delay is no longer considered an environmental impact in CEQA Section 15064.3 or a finding of significance in Appendix G of the 2019 CEQA guidance, vehicle levels and queueing impacts are still relevant to CEQA impact analyses where a project has the potential to cause safety hazards. In addition, traffic delay is still important to the City, so the Draft Transportation Impact Analysis Guidelines retain intersection analysis requirements for projects that generate more than 2,000 daily trips, and this information may also be required for projects that generate 110 to 2,000 daily trips based on a set of variables contained in the City's Draft Transportation Impact Analysis Guidelines.

The study area for this assessment includes the area immediately adjacent to the project site, along with roadways that provide primary access to the regional transportation network. The following seven signalized intersections were selected for evaluation in consultation with Port, City, and San Joaquin County staff:

- State Route 4 (SR-4)/Port of Stockton Expressway
- Navy Drive/Crosstown SR-4 (Ort J. Loftus Freeway)
- Washington Street/Navy Drive
- Washington Street/Fresno Avenue
- SR-4 (Charter Way)/Fresno Avenue
- SR-4 (Charter Way)/Interstate 5 (I-5) southbound ramps
- SR-4 (Charter Way)/I-5 northbound (NB) ramps

Vehicular access to the project site is provided via Forrestal Village Road. This roadway provides access from the project site to both West Washington Street and Navy Drive. While both West Washington Street and Navy Drive could be used to transport hydrogen fuel, implementation of HAZ-MM-1 would ensure that truck traffic would be limited to Navy Drive, which is a route designed and designated to accommodate commercial trucks carrying heavy loads. Therefore, the proposed project is consistent with overall uses at the Port, and operation of the proposed project would not result in substantial increased hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. Transportation hazard impacts would be less than significant with implementation of HAZ-MM-1.

D: Would the project result in inadequate emergency access?

No Impact. All vehicular access to and from the project site would be provided from Navy Drive. While truck trips would increase as part of the proposed project, the trucks can be accommodated

within the larger Port network, which is designed for Port and industrial operations. The Port has developed an emergency response plan to address emergency needs Port-wide and maintains its own Police Department, which is responsible for providing security protection of Port tenants on a 24-hour basis. Additionally, the closest fire stations to the project site are Station 6 at 1501 Picardy Drive (1.8 miles northeast of the proposed facility) and Station 2 at 110 West Sonora Street (2.6 miles east of the proposed facility; City 2018b). Because the proposed project is not expected to increase the need for emergency services or block any emergency access routes, the proposed project is expected to have no impact related to inadequate emergency access.

3.3.18 Tribal Cultural Resources

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
	i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☒	☐
	ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c)? In applying the criteria set forth in Public Resources Code Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

3.3.18.1 Affected Environment

The project site is in the traditional territory of the Yokuts Tribe and may also have been used or settled by Plains Miwok and Wintun peoples. Yokuts communities were organized into a number of tribes united by a common language (Golla 2007). They lived throughout the San Joaquin Valley and relied on the region's rich fishing and hunting resources (Kroeber 1976). Native American communities were severely impacted by European contact (Milliken 1995). However, Yokuts people who have endured are now members of several federally recognized tribes.

Two Native American tribes, the Buena Vista Rancheria of Me-Wuk Indians of California and the Wilton Rancheria Tribe, have requested consultation on CEQA documentation for projects at the Port under the CEQA Guidelines (commonly known as AB 52). The Port regularly consults with five other

tribes: the North Valley Yokuts Tribe, the Tule River Indian Tribe, Muwekma Ohlone Indian Tribe of the SF Bay Area, the Confederated Villages of Lisjan, and the Wuksachi Indian Tribe/Eshom Valley Band. The Port notified these seven tribes of the proposed project by email and letter on July 20, 2022, and will provide the Recirculated IS/MND to the tribes.

The Port requested a search of the Sacred Lands File from the NAHC on July 1, 2022. The NAHC responded on August 8, 2022, that the search was negative.

The Wilton Rancheria responded to the Port's letter on August 3, 2022, confirming that they would like to be kept informed about the project. On August 22, 2022, the Port provided Wilton Rancheria with the results of the Sacred Lands File search and of the CHRIS search described in Section 3.3.5.

No tribal cultural resources have been identified in the project site. Consultation will be ongoing.

3.3.18.2 Impact Analysis

Ai: Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less-than-Significant Impact. There are no known sites, features, places, or cultural landscapes that are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources in the project area. Previously unrecorded archaeological resources or human remains could potentially constitute tribal cultural resources. However, the potential to encounter archaeological resources is low, as described in Section 3.3.5. While the potential is low, native sediments may contain a previously unrecorded archaeological site or human remains that could be tribal cultural resources.

If archaeological materials that could be tribal cultural resources are encountered during construction, the proposed project would comply with state and federal requirements regarding identification, evaluation, and mitigation of impacts to significant archaeological sites, as well as consultation with tribes and agencies. This includes CEQA Guidelines Section 15064.5(f), which requires implementing "provisions for historical or unique archaeological resources accidentally discovered during construction." For these reasons, impacts would be considered less than significant.

Aii: Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c)? In applying the criteria set forth in Public Resources Code Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

Less-than-Significant Impact. There are no known sites, features, places, or cultural landscapes that have been determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC 5024.1(c) in the project area. Previously unrecorded archaeological resources or human remains could potentially constitute tribal cultural resources. However, potential to encounter archaeological resources is low, as described in Section 3.3.5. While the potential is low, native sediments may contain a previously unrecorded archaeological site or human remains that could be tribal cultural resources. Therefore, because the proposed project includes disturbance of soil, if archaeological materials or remains are present in previously undisturbed native sediments, they could potentially be disturbed during construction.

If archaeological materials that could be tribal cultural resources are encountered during construction, the proposed project would comply with state and federal requirements regarding identification, evaluation, and mitigation of impacts to significant archaeological sites, as well as consultation with tribes and agencies. This includes CEQA Guidelines Section 15064.5(f), which requires implementing "provisions for historical or unique archaeological resources accidentally discovered during construction." For these reasons, impacts would be considered less than significant.

3.3.19 Utilities and Service Systems

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
c.	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?	☐	☐	☒	☐
d.	Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.3.19.1 Affected Environment

3.3.19.1.1 Stormwater

On the East Complex, stormwater is conveyed via a system of drainage ditches and channels before being pumped into the stormwater retention basin immediately west of Navy Drive. Drainage ditches on the East Complex are generally open, with culverts beneath road crossings or other developments. During years when the retention basin reaches a high level, stormwater is pumped to the San Joaquin River (Port 2009). Stormwater falling in the area of the replacement rail bridge and adjoining levees drains directly to the San Joaquin River. Stormwater from the proposed project would be conveyed to the Port's existing stormwater drainage system.

3.3.19.1.2 Water Supply

Water service providers in the Stockton metropolitan area include the Stockton Municipal Utilities Department and the California Water Service (City 2018a). Approximately 16% of the City's water supply originates from groundwater wells, with the remaining water supply from treated surface water supplied by the Stockton East Water District (Cal Water 2020). The Delta Water Supply Project was completed in 2012 to provide the City with a reliable water supply to meet both current and future water needs (City 2022b). California Water Service provides domestic water in the area. Non-potable water obtained directly from the San Joaquin River is used for most non-domestic Port development needs.

3.3.19.1.3 Wastewater Infrastructure

The Stockton Regional Wastewater Control Facility (located just off SR 4 on both sides of the San Joaquin River) provides secondary and tertiary treatment of municipal wastewater throughout

the City. The Stockton Regional Wastewater Control Facility is a tertiary treatment facility that handles 55 million gallons per day (gpd). The facility serves the City and outlying San Joaquin County areas and currently processes an average of 33 million gpd (City 2021c).

3.3.19.1.4 Solid Waste

Solid waste within the City and Port is transported and disposed of primarily in the privately owned Forward Landfill and the San Joaquin County-owned Foothill Sanitary Landfill and North County Landfill & Recycling Center. The City's *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* indicates that all three landfills have sufficient capacity to serve the region's needs (City 2018c). The most recently reported remaining capacity and acceptable waste types for these facilities are listed in Table 17.

Table 17
Project Vicinity Landfills

Landfill	Remaining Capacity	Waste Type
Forward Landfill	Unit 1: 24,720,669 cy (reported January 31, 2020)	Agricultural, asbestos (including friable), ash, construction/demolition, contaminated soil, green materials, industrial, mixed municipal, sludge (biosolids), tires, shreds
Foothill Sanitary Landfill	125,000,000 cy (reported June 10, 2010)	Agricultural, construction/demolition, dead animals, industrial, mixed municipal, tires, wood waste
North County Landfill & Recycling Center	35,400,000 cy (reported December 31, 2009)	Construction/demolition, industrial, mixed municipal, tires, other designated, agricultural, metals, wood waste

Sources: CalRecycle SWIS 2022a, 2022b, 2022c

3.3.19.1.5 Utilities

PG&E services the area of the proposed project with overhead electrical distribution lines and underground gas transmission lines.

3.3.19.2 Impact Evaluation

A: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-than-Significant Impact. The proposed project would be adequately served by existing utility facilities available to Port tenants. New water service would be connected from the main on Navy Drive, and connections for electricity, sanitary sewer, and natural gas would be similarly connected from existing Port service to the proposed facility. As listed in Table 4, the proposed project's utility

needs would be moderate, and the proposed project would not require new generation or handling facilities for any of these utilities. Therefore, the impact would be less than significant.

B: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less-than-Significant Impact. The proposed facility would require water for domestic services, water used in the hydrogen process system, and water for seven new fire hydrants (two on-site and five along the existing access road and rail spur). As listed in Table 4, these water needs would be approximately 1,496 to 2,950 gpd of water for sanitary sewer use and 2,993 to 6,118 gpd of potable water. This water use can be accommodated by existing water resources and would not require new or expanded entitlements. Therefore, the proposed project would have a less-than-significant impact pertaining to water supply entitlements.

C: Would the project 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?

Less-than-Significant Impact. The proposed facility would produce wastewater from domestic services use and from water used in the hydrogen process system. This wastewater would be within the capacity of the existing Port system. The proposed project would not require additional wastewater service or impact the Port or the Stockton Regional Wastewater Control Facility's ability to handle existing wastewater needs in combination with the proposed project and foreseeable future needs. Therefore, the proposed project would have a less-than-significant impact pertaining to wastewater treatment capacity.

D: Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No Impact. The proposed project would generate minimal solid waste; soils excavated during site preparation would be recompacted for use on the site. The amount of solid waste generated by operation of the proposed project would be negligible and limited to nonhazardous waste generated by personnel on site and through facility maintenance. The landfills in the area have adequate capacity to meet the region's need and are authorized to accept waste materials that may be generated during construction of the proposed project. Therefore, there would be no impact related to landfill capacities.

E: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The proposed project would be constructed within the parameters of applicable federal, state, and local solid waste regulations. As described, area landfills are authorized to accept the types

of waste potentially generated by proposed project construction and operation. Therefore, there would be no impact.

3.3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b.	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c.	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.3.20.1 Affected Environment

According to the Fire Hazard Severity Zone Maps maintained by the California Department of Forestry and Fire Protection, the project area and other nearby communities within San Joaquin County are outside of zones that present moderate to very high fire hazard severity risk. Therefore, the project area and nearby communities are generally considered to have lower wildfire risk (CAL FIRE 2022a). The project and nearby communities are located in a local responsibility area (CAL FIRE 2022b). Existing fire response services are described in Section 3.3.15. As noted throughout, there are regional emergency response plans for the project area. In addition, during facility operation, BayoTech would prepare and keep on site an ICSS that would include constant personnel or technology-based monitoring of the hydrogen production and storage systems and appropriate systems for processing and storing hydrogen.

3.3.20.2 Impact Evaluation

A: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed project would be located in a local responsibility area, not a state responsibility area, and would not be in or near lands classified as very high fire hazard severity zones (CAL FIRE 2022a). The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As discussed in Section 3.3.17, there would be no impact on traffic that could affect emergency response. Therefore, there would be no impact.

B: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels, and fuel moisture contents), and topography. For instance, steep slopes can contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult (Estes et al. 2017). Fuels, such as grass, are highly flammable (Estes et al. 2017). The project site is located in an area that is industrialized, generally flat, and contains very limited vegetation, which is not considered to pose a significant risk of wildfire. The proposed project would be located in a local responsibility area, not a state responsibility area, and would not be in or near lands classified as very high fire hazard severity zones (CAL FIRE 2022b). Although the proposed project entails hydrogen production and usage of common industrial materials that may be flammable, BayoTech's ICSS includes plans and monitoring measures that address operational hazards, and adequate fire response services are in place to respond during an emergency. Therefore, there would be no impact.

C: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The proposed project would be located in a local responsibility area, not a state responsibility area, and would not be in or near lands classified as very high fire hazard severity zones (CAL FIRE 2022b). The proposed project would require connecting existing PG&E power lines to the proposed facility, but because the proposed project is not in or near state responsibility areas

or very high fire severity zones, and because these lines already exist, the proposed project would have no impact.

D: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The proposed project would not result in downstream flooding or landslides as a result of changes in runoff, post-fire slope instability, or drainage. Because the project site is essentially flat and located in an existing urbanized area of the City, downstream landslides would not occur; therefore, neither people nor structures would be exposed to significant risks. Additionally, the proposed project would be located in a local responsibility area, not a state responsibility area, and would not be in or near lands classified as very high fire hazard severity zones (CAL FIRE 2022a). Therefore, there would be no impact.

3.3.21 Mandatory Findings of Significance

		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Does the project have the potential to substantially 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, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.3.21.1 Impact Evaluation

A: Does the project have the potential to substantially 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, substantially 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?

Less-than-Significant Impact After Mitigation. The potential impacts of the proposed project on fish, wildlife, and other biological resources are described in detail in Section 3.3.4. Habitat for wildlife at the project site is extremely limited, and there is no habitat suitable for special-status species. The proposed project entails very limited construction and relatively benign operations (i.e., production, storage, and delivery of hydrogen fuel) that would not affect wildlife habitat away from the project site. While unlikely, proposed project construction and operations could potentially significantly impact off-site waterbodies that may support wildlife without mitigation. Mitigation measures BIO-MM-1, BIO-MM-2, and BIO-MM-3, which include construction and operational measures to control spills and runoff, and either obtaining SJMSCP coverage or completing alternative nesting bird protection strategies if SJMSCP coverage is not obtained for the proposed project, would be implemented to reduce potential impacts to waterbodies and habitats. With implementation of these mitigation measures, there would be less-than-significant impacts to biological resources.

The potential impacts of the proposed project on historical resources are described in detail in Section 3.3.5. The proposed project does not include any excavation or demolition of any structures, and impacts to historic or cultural resources would be less than significant.

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

Less-than-Significant Impact. The proposed project would result in minimal less-than-significant impacts, some of which require mitigation. The proposed project's operations were specifically designed to avoid significant air quality, GHG, noise, and transportation impacts. Therefore, the proposed project would result in less-than-significant impacts as related to cumulative impacts.

C: Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact. As noted throughout, the proposed project would result in minimal less-than-significant construction and operational impacts. A purpose of the proposed project is to distribute hydrogen fuel throughout the region for use as a renewable fuel, which constitutes an

overall long-term benefit to communities living in the region as compared to without project conditions. Therefore, the proposed project would result in less-than-significant impacts associated with environmental effects that could adversely affect human beings.

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