

1 **3.7 GREENHOUSE GAS EMISSIONS**

GREENHOUSE GAS EMISSIONS –Would the Project:	Potentially Significant Impact	Less Than Significant with 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2 **3.7.1 Environmental Setting**

3 The Project area is located in Contra Costa County, which is part of the SFBAAB. The
 4 BAAQMD is the regional agency with jurisdiction over the nine-county SFBAAB, which
 5 includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and
 6 Napa counties and portions of Sonoma and Solano counties. The BAAQMD is
 7 responsible for attaining and maintaining air quality in the SFBAAB within federal and
 8 State air quality standards, as established by the federal CAA and the CCAA,
 9 respectively. Specifically, the BAAQMD has the responsibility to monitor ambient air
 10 pollutant levels throughout the SFBAAB and to develop and implement strategies to
 11 attain the applicable federal and State standards. The BAAQMD (2010a) adopted the
 12 most recent air quality plan, the *2010 Clean Air Plan*, on September 15, 2010. The *2010*
 13 *Clean Air Plan* updates the *Bay Area 2005 Ozone Strategy* in accordance with the
 14 requirements of the CCAA to implement all feasible measures to reduce ozone; provide
 15 a control strategy to reduce ozone, particulate matter, air toxics, and GHGs in a single,
 16 integrated plan; and establish emission-control measures to be adopted or
 17 implemented. The *2010 Clean Air Plan* includes the following primary goal: reduce GHG
 18 emissions and protect the climate. Consistency with the *2010 Clean Air Plan* is the
 19 basis for determining whether the Project would conflict with or obstruct implementation
 20 of air quality plans.

21 Certain gases in the Earth’s atmosphere, classified as GHGs, play a critical role in
 22 determining the Earth’s surface temperature. When high-frequency solar radiation (e.g.,
 23 visible light) enters the Earth’s atmosphere from space (i.e., the sun), a portion of the
 24 radiation is absorbed by the Earth’s surface, and a smaller portion of this radiation is
 25 reflected back toward space. However, the re-radiated energy by the Earth is not the
 26 same high-frequency solar radiation that was received, but is lower-frequency infrared
 27 radiation (i.e., thermal energy). The frequencies at which bodies emit radiation are
 28 proportional to temperature. Therefore, having a much lower temperature than the sun,
 29 the Earth will emit lower frequency (longer wavelength) radiation (i.e., infrared
 30 radiation). When infrared radiation comes into contact with GHGs in the atmosphere, a

1 portion of that thermal energy can be absorbed by the GHG molecule and/or re-radiated
 2 back toward the Earth’s surface. Both outcomes result in a “trapping” of heat within the
 3 Earth’s atmosphere. This phenomenon, known as the “greenhouse effect,” is
 4 responsible for maintaining a habitable climate on Earth. Without the greenhouse effect,
 5 Earth would not be able to support life as we know it.

6 Aside from naturally occurring atmospheric water vapor, prominent GHGs contributing
 7 to the Earth’s greenhouse effect are carbon dioxide (CO₂), methane (CH₄), nitrous oxide
 8 (N₂O), and high global warming potential (GWP) GHGs. Although high-GWP gases
 9 typically are emitted at lower rates than CO₂, CH₄, and N₂O, they still can make a
 10 significant contribution to climate change because they are more effective at absorbing
 11 outgoing infrared radiation than CO₂. The concept of carbon dioxide equivalents (CO₂e)
 12 is used to account for the different potentials of GHGs to absorb infrared radiation. This
 13 potential (the GWP) is dependent on the lifetime or persistence of the gas molecule in
 14 the atmosphere, its ability to absorb/trap infrared radiation, and the spectrum of light
 15 energy (i.e., range of wavelengths and frequencies) absorbed by the gas molecule.
 16 Every GHG’s GWP is measured relative to CO₂, which has a GWP of 1. Anthropogenic
 17 (i.e., caused by humans) emissions of these GHGs leading to atmospheric levels of
 18 GHGs in excess of natural ambient concentrations are responsible for intensifying the
 19 greenhouse effect and have led to a trend of unnatural warming of the Earth’s
 20 atmosphere and oceans, with corresponding effects on global circulation patterns and
 21 climate. CO₂ emissions associated with fossil fuel combustion for energy-related
 22 activities are the primary contributors to human-induced climate change (IPCC 2007).

23 **3.7.2 Regulatory Setting**

24 **Federal and State**

25 Federal and State laws and regulations pertaining to this issue area and relevant to the
 26 Project are identified in Table 3.7.1.

Table 3.7-1 Laws, Regulations, and Policies (GHGs)

U.S.	Federal Clean Air Act (FCAA) (42 USC 7401 et seq.)	In 2007, the U.S. Supreme Court ruled that CO ₂ is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate GHG emissions.
CA	California Global Warming Solutions Act of 2006 (AB 32)	Under AB 32, CARB is responsible for monitoring and reducing GHG emissions in the State and for establishing a statewide GHG emissions cap for 2020 that is based on 1990 emissions levels. CARB (2009) has adopted the AB 32 Climate Change Scoping Plan (Scoping Plan), which contains the main strategies for California to implement to reduce CO ₂ e emissions by 169 million metric tons (MMT) from the State’s projected 2020 emissions level of 596 MMT CO ₂ e under a business-as-usual scenario. The Scoping Plan breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the State’s GHG inventory, but does not directly discuss GHG emissions

Table 3.7-1 Laws, Regulations, and Policies (GHGs)

		generated by construction activities.
CA	Senate Bills (SB) 97 and 375	<ul style="list-style-type: none"> • Pursuant to SB 97, the State Office of Planning and Research prepared and the Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. Effective as of March 2010, the revisions to the CEQA Environmental Checklist Form (Appendix G) and the Energy Conservation Appendix (Appendix F) provide a framework to address global climate change impacts in the CEQA process; State CEQA Guidelines section 15064.4 was also added to provide an approach to assessing impacts from GHGs. • SB 375 (effective January 1, 2009) requires CARB to develop regional reduction targets for GHG emissions, and prompted the creation of regional land use and transportation plans to reduce emissions from passenger vehicle use throughout the State. The targets apply to the regions covered by California’s 18 metropolitan planning organizations (MPOs). The 18 MPOs must develop regional land use and transportation plans and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.
CA	Executive Orders (EOs)	<p>Under EO S-01-07, which set forth a low carbon fuel standard for California, the carbon intensity of California’s transportations fuels is to be reduced by at least 10 percent by 2020.</p> <p>EO S-3-05 established statewide GHG emission targets of reducing emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below the 1990 level by 2050.</p>

1 Local

2 The BAAQMD has developed CEQA Guidelines to assist local jurisdictions and lead
 3 agencies in complying with the requirements of CEQA regarding potentially adverse
 4 impacts to air quality, including GHGs. The BAAQMD CEQA Guidelines were updated
 5 in June 2010 (BAAQMD 2010b) to include reference to thresholds of significance
 6 adopted by the Air District Board on June 2, 2010, and were set aside on March 5,
 7 2012, by the Alameda County Superior Court (BAAQMD 2012). BAAQMD has appealed
 8 the decision, and an appeal is pending.

9 While the appeal is pending, BAAQMD is no longer recommending that the 2010
 10 Thresholds be used as a generally applicable measure of a project’s significant air
 11 quality and GHG impacts. BAAMQD indicates that lead agencies may continue to rely
 12 on the BAAQMD’s 1999 Thresholds of Significance (BAAQMD 1999).

13 The San Francisco Bay Area as a whole does not have a Climate Action Plan.
 14 BAAQMD adopted a resolution in 2005 establishing a Climate Protection Program and
 15 acknowledging the link between climate protection and programs to reduce air pollution
 16 in the Bay Area, and formed a standing committee on climate protection to provide
 17 direction on BAAQMD’s climate protection activities. The BAAQMD’s focus is to
 18 integrate climate protection activities into existing BAAQMD programs (BAAQMD 2013).

1 **3.7.3 Impact Analysis**

2 With the exception of very large projects, GHG from individual projects are typically less
 3 than significant at the project scale; however, GHG emissions cumulatively have a
 4 substantial environmental impact. The revisions to the State CEQA Guidelines adopted
 5 December 30, 2009 (§ 15064, subd. (h)(3)) provide the basis for assessing cumulative
 6 impacts of GHG emissions. Section 15064 indicates that a

7 *...lead agency may determine that a project’s incremental contribution to a*
 8 *cumulative effect is not cumulatively considerable if the project will comply with the*
 9 *requirements in a previously approved plan or mitigation program (including, but not*
 10 *limited to, water quality control plan, air quality attainment or maintenance plan,*
 11 *integrated waste management plan, habitat conservation plan, natural community*
 12 *conservation plan, plans or regulations for the reduction of greenhouse gas*
 13 *emissions) that provides specific requirements that will avoid or substantially lessen*
 14 *the cumulative problem within the geographic area in which the project is located.*

15 The guidance also encourages lead agencies to quantify GHG emissions where
 16 possible.

17 **a) Generate GHG emissions, either directly or indirectly, that may have a**
 18 **significant impact on the environment?**

19 **Less than Significant.** The Project would generate GHG emissions, but not in levels
 20 that would result in a significant cumulative impact on the environment. The Project
 21 involves 2 weeks of construction activity; no GHGs would be emitted from the Project
 22 following removal of the outfall and piles. During Project activities, GHG emissions
 23 would be generated from a variety of sources such as worker vehicles, material haul
 24 trucks, removal equipment, and marine harbor-craft. As shown in Table 3.7-2, the
 25 Project would generate an estimated 12.1 MTCO_{2e}/year (see Appendix C, Air Quality
 26 and Greenhouse Gas Emissions Estimates).

Table 3.7-2 Project GHG Emissions

Pollutant	Construction Equipment Emissions Totals (lbs/day)	Marine Equipment Emissions Totals (lbs/day)	Total Daily Emissions (lbs/day)	Total Project GHG Impacts (MTCO _{2e} /year)	BAAQMD 2010 GHG Inventory Total (MTCO _{2e} /year)
CO _{2e}	1336.5	878.1	2214.6	12.1	95,800,000

27 Project construction emissions will be short term and the contribution to the BAAQMD’s
 28 overall GHG emissions will be diminutive considering there were 95.8 million million
 29 tons of CO_{2e} (MTCO_{2e}) released within the Bay Area in 2007 (BAAQMD 2010a).

1 Therefore, the Project would not interfere with the AB 32 reduction goals (see Table 3.7-
2 1). As a result, the Project’s GHG related impacts are less than significant.

3 ***b) Conflict with any applicable plan, policy, or regulation of an agency adopted***
4 ***for the purpose of reducing the emissions of GHG emissions?***

5 **Less than Significant.** The CARB Climate Change Scoping Plan (2008) establishes
6 GHG reduction strategies and goals for California’s future. The plan primarily aims to
7 deal with large contributors to California’s GHG emissions such as power generation
8 and transportation. This is in large part due to the global nature of climate change where
9 significant contributors are on a much larger scale than the Project. The scale of this
10 Project’s minimal temporary and short-term removal activity is insignificant relative to
11 the goals of the scoping plan and climate change. The Project would not conflict with
12 any applicable plan, policy or regulation of an agency adopted for the purpose of
13 reducing the emissions of GHGs, therefore the impact from the Project is less than
14 significant.

15 **3.7.4 Mitigation Summary**

16 The Project would not result in significant impacts from GHG emissions; therefore, no
17 mitigation is required.