Pacific Los Angeles Marine Terminal Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines Project

Final General Conformity Determination

The Port of Los Angeles, California

June 1, 2010

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Section 1
Introduction

Section 176 (c) of the Clean Air Act (42 U.S.C. § 7506(c)) requires any entity of the Federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Clean Air Act (42 U.S.C. § 7410(a)) before the action is otherwise approved. In this context, conformity means that such Federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of national ambient air quality standards (NAAQS) and achieving expeditious attainment of those standards. Each Federal agency (including the U.S. Army Corps of Engineers [USACE]) must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact, conform to the applicable SIP before the action is taken.

The Port of Los Angeles (POLA) Pacific Los Angeles Marine Terminal [PLAMT] Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines Project (hereinafter the Project) will require the issuance of a USACE permit, pursuant to Section 10 of the Rivers and Harbors Act, and possible approval by the U.S. Coast Guard (USCG)[1], pursuant to the General Bridge Act of 1946, as amended, for several improvements in and over navigable waters of the U.S. at Berth 408 on Pier 400, the Pier 400 Causeway, and Dominguez Channel. This final general conformity determination documents the evaluation of the Federal action, which includes all construction activity associated with the Project, with Section 176 (c) requirements of the Clean Air Act. The remainder of Section 1 discusses the background of the regulatory requirements. Section 2 discusses the Federal action. Section 3 discusses the regulatory procedures for the conformity evaluation. Section 4 describes how applicability of the conformity requirements to the Federal action was analyzed. Section 5 presents the methods and criteria that were used to evaluate the conformity of the Federal action. Section 6 discusses the concepts of mitigation required under conformity regulations. Section 7 presents the reporting process to be followed to formalize the conformity determination. Section 8 offers the USACE's findings and conclusions. Section 9 provides references for the evaluation. Attachment A provides a discussion and results of the emission calculation methods applied in the general conformity evaluation. Attachment B provides correspondence received from the Southern California Association of Governments (SCAG) regarding the Project's regional significance and POLA activity forecasts. Attachment C presents the USACE general conformity guidance document. Attachment D provides correspondence received from the South Coast Air Quality Management District

[1] Based on discussions among the USACE, USCG, and the LAHD, it does not appear a USCG permit will be required for the Pier 400 Causeway crossing or the Dominguez Channel crossing, because neither crossing is expected to affect vertical or horizontal clearance in the vicinity of the causeway or bridge (i.e., no change in navigable capacity anticipated at either location); however, notices would have to be provided to mariners/local water users prior to beginning the use of floating equipment or vessels in the vicinity of the causeway or bridge, which would have to be coordinated through the USCG.

(SCAQMD) with documentation supporting the conformity determination for the Federal action. Attachment E provides a list of the changes made to the draft general conformity determination to create this final general conformity determination.

1.1 Transportation Conformity Requirements

The U.S. Environmental Protection Agency (EPA) promulgated two regulations to address the conformity requirements of the Clean Air Act. On November 24, 1993, EPA promulgated final transportation conformity regulations at 40 C.F.R. Part 93 Subpart A to address Federally-assisted transportation plans, programs, and projects. These regulations have been revised several times since they were first issued to clarify and simplify them. On September 14, 1994, the South Coast Air Quality Management District (SCAQMD), which oversees air quality management in the South Coast Air Basin (SCAB) of California, adopted these regulations by reference as part of Rule 1902. The SCAQMD rule has also been amended since its original issuance. Although, in general, a seaport development project may require or rely on improvements in roadway or transit infrastructure, a determination of transportation conformity related to such improvements would typically be addressed by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) as part of a regional transportation plan or regional transportation improvement program and not as a stand-alone project. SCAG, the regional metropolitan planning organization (MPO), has indicated that the project is not regionally significant (SCAG 2008a), and also indicated that POLA growth in truck and automobile traffic is accounted for in the 2008 Regional Transportation Plan (RTP, SCAG 2008b) (SCAG 2007) for which a transportation conformity determination has been issued (see Section 3.1); therefore, it would not be necessary to include on-road emissions associated with construction material deliveries, on-road debris hauling, and worker commute trips in the general conformity evaluation since this portion of the Federal action is considered to conform to the SIP (40 C.F.R. § 51.858(a)(5)(ii)). Attachment B includes the SCAG statements.

1.2 General Conformity Requirements

On November 30, 1993, EPA promulgated final general conformity regulations at 40 C.F.R. Part 51 Subpart W for all Federal activities except those covered under transportation conformity. On September 14, 1994, SCAQMD adopted these regulations by reference as part of Rule 1901, and EPA approved this rule as part of the California SIP on April 23, 1999 (64 FR 19916). Parallel general conformity regulations at 40 C.F.R. Part 93 Subpart B apply in areas where EPA has not approved general conformity requirements to the state's implementation plan. The general conformity regulations apply to a Federal action in a nonattainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants caused by the Federal action equal or exceed certain de minimis rates, thus requiring the Federal agency to make a determination of general conformity. Even if the total direct and indirect emissions of any pollutant from a Federal action does not equal or exceed the de minimis rates, but represents ten percent or more of a nonattainment or maintenance area's total emissions of that pollutant, the action is considered regionally significant and the Federal agency must make a determination of general conformity. By

requiring an analysis of direct and indirect emissions, EPA intended the regulating Federal agency to make sure that only those emissions that are reasonably foreseeable and that the Federal agency can practicably control subject to that agency's continuing program responsibility will be addressed.

The general conformity regulations incorporate a stepwise process, beginning with an applicability analysis. According to EPA guidance (EPA 1994), before any approval is given for a Federal action to go forward, the regulating Federal agency must apply the applicability requirements found at 40 C.F.R. § 51.853(b) to the Federal action and/or determine the regional significance of the Federal action to evaluate whether, on a pollutant-by-pollutant basis, a determination of general conformity is required. The guidance states that the applicability analysis can be (but is not required to be) completed concurrently with any analysis required under the National Environmental Policy Act (NEPA). If the regulating Federal agency determines that the general conformity regulations do not apply to the Federal action, no further analysis or documentation is required. If the general conformity regulations do apply to the Federal action, the regulating Federal agency must next conduct a conformity evaluation in accord with the criteria and procedures in the implementing regulations, publish a draft determination of general conformity for public review, and then publish the final determination of general conformity.

On April 5, 2010, EPA promulgated revised general conformity requirements at 40 C.F.R. Part 93 Subpart B (75 FR 17254). In the same action, EPA eliminated most of the general conformity requirements under 40 C.F.R. Part 51 Subpart W, because they were mostly duplicative of the requirements at 40 C.F.R. Part 93 Subpart B, and revised 40 C.F.R. § 51.851 to remove the obligation for states to include general conformity requirements in their implementation plans. The revised regulations will take effect on July 6, 2010.

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Section 2
Description of the Federal Action

In accordance with applicable general conformity regulations and guidance, including USACE guidance dated April 20, 1994 (USACE 1994; see Attachment C), when a general conformity determination is necessary, the USACE is only required to conduct a general conformity evaluation for a specific Federal action associated with the selected alternative for a project or program (EPA 1994), and the USACE must issue a positive conformity determination before the Federal action is approved. Each Federal agency is responsible for determining conformity of those proposed actions over which it has jurisdiction. This final general conformity determination is related specifically to those activities included in the Federal action addressed herein which pertain to those portions of the Project that require a USACE permit for construction. The Project and the Federal action are more fully described in Section 2.1.

The general conformity requirements only apply to Federal actions proposed in nonattainment areas (i.e., areas where one or more NAAQS are not being achieved at the time of the proposed action and requiring SIP provisions to demonstrate how attainment will be achieved) and in maintenance areas (i.e., areas recently reclassified from nonattainment to attainment and requiring SIP provisions pursuant to Section 175A of the Clean Air Act to demonstrate how attainment will be maintained). The attainment status in the vicinity of POLA is discussed in Section 4.1.

2.1 Pacific Los Angeles Marine Terminal Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines Project

The Los Angeles Harbor Department (LAHD) is undertaking the Project for the construction and operation of a new marine terminal at Berth 408 on Pier 400 (Marine Terminal) at POLA, new tank farm facilities with a total of 4.0 million barrels of capacity, and pipelines connecting the Marine Terminal and the tank farms to local refineries. The new Marine Terminal would be designed to receive crude oil from marine vessels and transfer the oil to two new tank farm facilities via a new 42-inch-diameter, high-volume pipeline. One of the tank farms would be located on Pier 400 and the other on Pier 300. The Project's new tank farm facilities would be connected to existing, adjacent refineries via new and existing 36-inch, 24-inch, and 16-inch diameter pipelines. All pipelines would be installed below ground, with the exception of the water crossing at the Pier 400 causeway bridge and at the Valero utility/pipe bridge that crosses the Dominguez Channel west of the Ultramar/Valero Refinery. The Project would not require any dredging.

The Federal action has been defined and evaluated for NEPA and CEQA purposes in the project Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR) (the SEIR was approved by the Los Angeles Board of Harbor

Commissioners in November 2008). A USACE permit would be required for the Project to undertake the wharf work at Berth 408 on Pier 400, as identified in the LAHD's March 2004 application for a Department of the Army permit and their August 12, 2009 amendment to this application, and USCG approval might be required for the pipeline water crossing at the Pier 400 causeway bridge and the pipeline water crossing at the Dominguez Channel. The USACE and LAHD have concluded that no part of the Project would be built absent a USACE permit; therefore, all the anticipated emissions associated with constructing the Project are included in this evaluation.

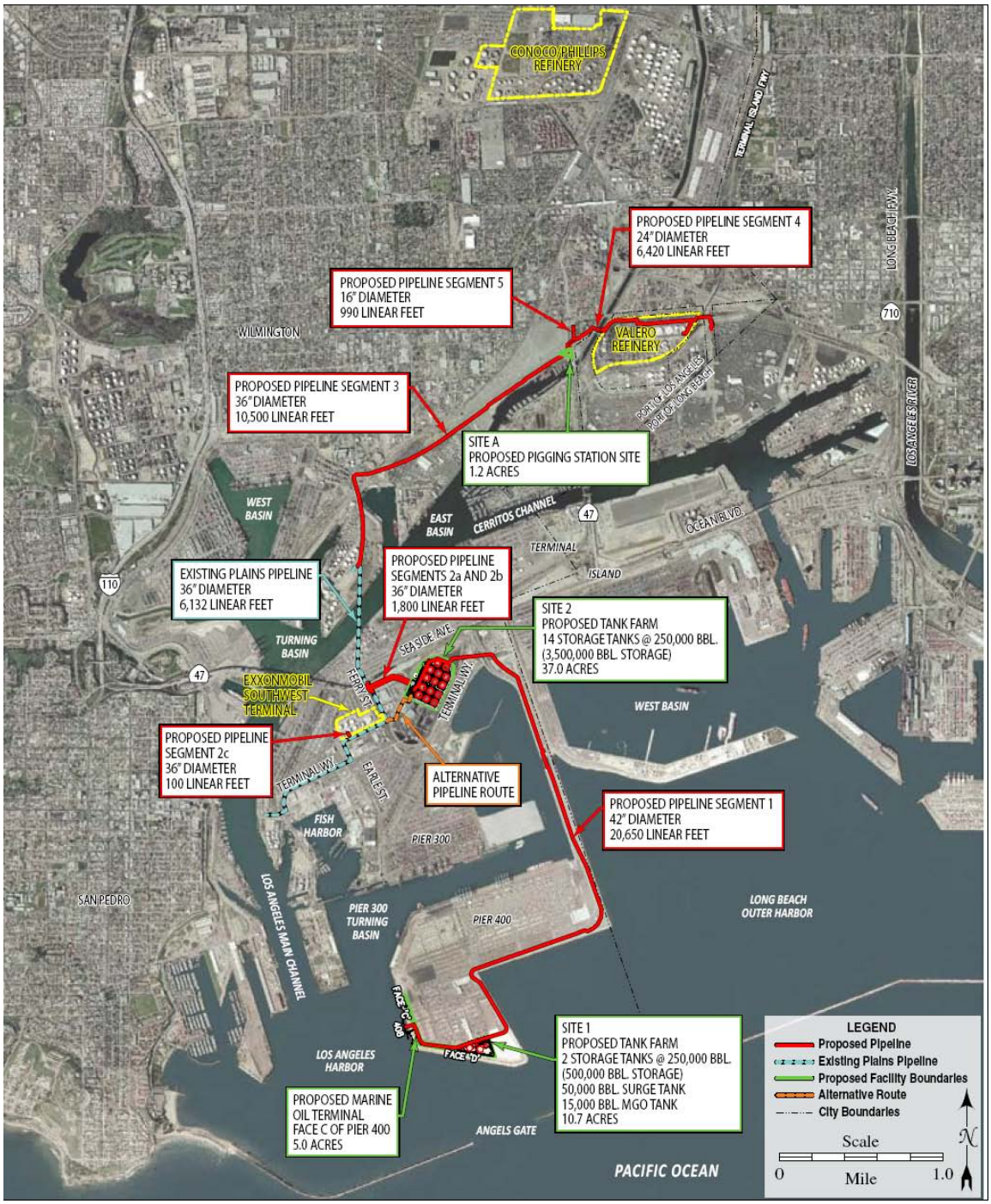
As part of the environmental review of the Project, the USACE, in coordination with the LAHD and the USCG, has prepared this final general conformity determination to demonstrate compliance with the general conformity requirements in support of the Federal action associated with the Project.

The seaport layout for the Project is presented in **Figure 2-1**. **Table 2-1** presents the list of major construction activities included in the Federal action.

LAHD has prepared an extensive list of both construction and operational mitigation measures that it proposes to implement as part of the Project to satisfy requirements of the California Environmental Quality Act (CEQA), and for the general conformity evaluation, the construction measures are considered design features as part of Project construction. These mitigation measures were developed from reviews of mitigation measures and plans used at other seaports, extensions of ongoing LAHD environmental policies (including implementation of the Sustainable Construction Guidelines (POLA 2007) and the San Pedro Bay Ports Clean Air Action Plan (POLA/POLB 2006)), and public comments received on the Draft and Final SEIS/SEIR. The mitigation measures related to construction include the following general approaches to reduce air quality impacts:

- MM AQ-1: Ridesharing or Shuttle Service. Ridesharing or shuttle service shall be provided for construction workers, reducing vehicle traffic and emissions related to the construction workforce.

- MM AQ-2: Staging Areas and Parking Lots. On-site construction equipment staging areas and construction worker parking lots shall be located on either paved surfaces or unpaved surfaces covered by gravel or subjected to soil stabilizer treatments. These areas will be located as close as possible to public access routes.



Source: LAHD 2008.

Figure 2-1 Overall Project Layout[2]

[2] LAHD and the future tenant have been discussing reducing a portion of the storage capacity previously proposed at Tank Farm Site 1 and replacing it at Tank Farm Site 2, but the total combined storage capacity would be unchanged (4.0 million barrels).

Table 2-1
List of Construction Activities in the Federal Action

Construction Project	Project Element
Wharf Construction	- Mobilization - Demobilization - Unloading Platform - Breasting Dolphin Platforms - Mooring Dolphin Platforms - Trestle Abutments - Main Trestle - Single Lane Trestle to Breasting Dolphin - Utility Boat Floating Dock & Gangway - Wave Screen - Emergency Spill Boom Platforms
Pipeline Construction	- 42" – 36" – Terminal Island - 36" – HDD / Open Cut / Assist HDD - Wilmington - 24" – Valero
Tank Farm Construction – Site 1	- Soil Stabilization - Construction - Tanks (2-250,000 BBL, 1-50,000 BBL, 1-15,000 BBL)[a.]
Tank Farm Construction – Site 2:	Phase 1 - Soil Stabilization - Construction - Tanks (8-250,000 BBL)[a.]
Tank Farm Construction – Site 2:	Phase 2 - Construction - Tanks (6-250,000 BBL)[a.]
Stone Delivery	- Vessels - Haul Trucks

Source: Camp Dresser & McKee Inc., 2010.
a. LAHD and the future tenant have been discussing reducing a portion of the storage capacity previously proposed at Tank Farm Site 1 and replacing it at Tank Farm Site 2, but the total combined storage capacity would be unchanged (4.0 million barrels).

- MM AQ-3: Fleet Modernization for Construction Equipment. Prior to December 31, 2011: All on-site mobile diesel-powered construction equipment greater than 50 horsepower except derrick barges and marine vessels, shall meet Tier 2 emission standards as defined in the USEPA Non-Road Diesel Engine Rule prior to December 31, 2011. In addition, all construction equipment greater than 50 horsepower shall be retrofitted with a California Air Resources Board (CARB) certified Level 3 diesel emission control device. From January 1, 2012 to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 3 engine off-road emission standards at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emission control device. From January 1, 2015 on: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 4 engine off-road emission standards at a minimum and shall be retrofitted with a CARB certified Level 3 diesel emission control device.

- MM AQ-4: Electricity Use. Electricity supplied by a public utility shall be used where available on the tank farm and pier construction sites in lieu of temporary diesel- or gasoline-powered generators.

- MM AQ-5: Best Management Practices. The following types of measures are required on construction equipment (including on-road trucks): (1) use of diesel oxidation catalysts and diesel particulate traps; (2) maintain equipment according to manufacturers' specifications; (3) restrict idling of construction equipment to a maximum of five minutes when not in use; and (4) install high-pressure fuel injectors on construction equipment vehicles.

- MM AQ-6: Additional Fugitive Dust Controls. The construction contractor shall reduce fugitive dust emissions to 90 percent from uncontrolled levels. Measures will include, but not be limited to: (1) additional watering beyond that required by SCAQMD Rule 403; (2) use of non-toxic soil stabilizer; (3) use of temporary wind fencing; (4) trucks hauling dirt, sand, or gravel shall be covered or maintain at least 2 feet of freeboard; and (5) use of wheel washers for vehicles leaving the construction site.

- MM AQ-7: Expanded VSR Program. All ships and barges used primarily to deliver construction materials shall comply with the expanded vessel speed reduction program of 12 knots for 40 nautical miles from Point Fermin to the Precautionary Area.

- MM AQ-8: Low-Sulfur Fuel for Construction Delivery Vessels. All ships and barges used primarily to deliver construction material shall use low-sulfur fuel (maximum 0.2 percent) in main engines, auxiliary engines, and boilers within 40 nautical miles of Point Fermin.

- MM AQ-9: Engine Standards for Harbor Craft Used in Construction. Prior to 12/31/10, all harbor craft with C1 or C2 marine engines must achieve emission reductions equivalent to EPA Tier 2 2004 level off-road marine engines. On and after 1/1/11, all harbor craft with C1 or C2 marine engines must utilize EPA Tier 3 engines or cleaner.

- MM AQ-10: Fleet Modernization for On-Road Trucks. Trucks hauling materials such as debris or fill shall be fully covered while operating off POLA property; idling shall be restricted to a maximum of five minutes when not in use; all heavy duty diesel trucks with a gross vehicle weight rating of 19,500 pounds shall meet EPA 2004 on-road particulate matter standards and be cleanest available NOx and certified with California Air Resources Board (CARB) certified best available control technology devices.

- MM AQ-11: Special Precautions Near Sensitive Sites. All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals) shall notify each of these sites in writing at least 30 days before construction activities begin.

- MM AQ-12: General Mitigation Measures. If a CARB-certified technology becomes available and is shown to be as good as or better in terms of emission performance compared to those proposed in MM AQ-1 through MM AQ-6, the new technology could replace the existing measure pending approval by LAHD.

- MM 4G-5: Discontinue Construction Activities During a State II Alert.

All of the mitigation measures that the USACE has relied upon in this final general conformity determination are CEQA-related mitigation measures that were expressly adopted by LAHD in approving the overall Project and certifying the Final SEIR. As such, those mitigation measures are fully enforceable under Cal. Pub. Res. Code § 21081.6. California regulations also require compliance with mitigation requirements as stated in a mitigation monitoring and reporting program (MMRP); see 14 C.C.R. §§ 15091(d) and 15097(c)(3). The Project MMRP (LAHD 2008), which incorporates all of the mitigation measures that the USACE has relied upon in this final general conformity determination as design features, describes LAHD's lead responsibility for administering the program, the timing of implementation, monitoring frequency, and actions indicating compliance. These provisions ensure that the measures will be properly implemented through incorporating mitigation measures into all construction bid specifications for the Project.

Finally, the emission factors for construction equipment will decrease into the future due to current CARB regulations (such as the in-use off-road diesel-fueled fleets rule, 13 C.C.R. Article 4.8) that have emission limits and reduction goals phased in over time. Therefore, even if the project construction schedule were to slip, the peak year construction emissions would not be higher than the emissions identified in Section 4 of this final general conformity determination.

2.2 Relationship to Other Environmental Analyses

The USACE and LAHD had previously commissioned a study to evaluate the capacity of the San Pedro Bay Port complex to accommodate cargo forecasts through the year 2020; that report was known as "The 2020 Plan." Based on The 2020 Plan, in November 1992, the USACE and LAHD published the *Deep Draft Navigation Improvements, Los Angeles and Long Beach, San Pedro Bay, California Final EIS/EIR* (USACE/LAHD 1992). That document analyzed, among other issues, the impacts of the creation of Pier 400 from dredge material and the subsequent construction and operation of a new liquid bulk terminal on the new Pier 400 land. While the current Project is consistent with the Deep Draft Final EIS/EIR, the changed environmental and regulatory circumstances and changed configuration of the current Project from the marine terminal proposed in 1992 led the USACE and LAHD to prepare and publish a joint Draft Supplemental EIS/ Subsequent EIR (Draft SEIS/SEIR) in May 2008 (USACE/LAHD 2008a). The Final Supplemental EIS/ Subsequent EIR (Final SEIS/SEIR) was published in November 2008 (USACE/LAHD 2008b), and the SEIR was approved by the Los Angeles Board of Harbor Commissioners in November 2008. The USACE is the lead agency for the NEPA analysis documented in the SEIS. The LAHD is the lead agency for the CEQA analysis documented in the SEIR.

Both NEPA and CEQA require that the air quality impacts of Project implementation be analyzed and disclosed. Regulatory guidance implementing these statutes requires that the air quality impacts from the project and its alternatives be determined by identifying the associated project incremental emissions and air pollutant concentrations and comparing them respectively to emissions thresholds and state and national ambient air quality standards. For CEQA purposes, the air quality impacts of the proposed project were compared to the impacts of the environmental baseline to determine environmental significance and develop appropriate mitigation measures. The air quality impacts of the proposed project were also compared to the NEPA Baseline for NEPA purposes. This final general conformity determination is being published subsequent to the Final SEIS but prior to the Record of Decision that clarifies the Federal action. Several changes in the Federal action emission calculations have been incorporated into this evaluation, as noted in Section 3.2.

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Section 3
Regulatory Procedures

The general conformity regulations establish certain procedural requirements that must be followed when preparing a general conformity evaluation. This section addresses the major procedural issues and specifies how these requirements are met for the evaluation of the Federal action. The procedures required for the general conformity evaluation are similar but not identical to those for conducting an air quality impact analysis under NEPA regulations.

3.1 Use of Latest Planning Assumptions

The general conformity regulations require the use of the latest planning assumptions for the area encompassing the Federal action, derived from the estimates of population, employment, travel, and congestion most recently approved by the MPO (40 C.F.R. § 51.859(a)). It should be noted that the latest planning assumptions available from the MPO at the time of this evaluation may differ from the planning assumptions used in establishing the applicable SIP emissions budgets. The approved 1997/1999 AQMP was developed with data similar to that used in the 1998 RTP, which was contemporaneous with the 1997/1999 AQMP. The approved 2008 RTP, which supersedes earlier RTPs, predicts an increase of goods movement in the SCAG region out to at least 2035, which partly reflects activities at POLA.

As noted previously, SCAG is the MPO for the region encompassing POLA. The SCAG region covers an area of over 38,000 square miles and includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG adopted the 2008 RTP on May 8, 2008 (SCAG 2008b). On June 5, 2008, the Federal Highway Administration (FHWA) issued a finding that the 2008 RTP conforms to the applicable state implementation plan (i.e., transportation conformity determination). Subsequently, SCAG has issued three amendments to the 2008 RTP and the FHWA has issued positive transportation conformity determinations for each amendment. The growth forecast for the 2008 RTP estimated a region-wide population growth of approximately 30 percent between 2005 and 2035 and a nearly equivalent region-wide employment growth for the same period. The growth rates for population and employment in Los Angeles County are among the lowest for counties in the SCAG region.

The 2008 RTP indicates that container volume processed by the San Pedro Bay ports (Port of Los Angeles and Port of Long Beach), as a measure of goods movements within southern California, grew by almost 60 percent between 2000 and 2006, and it is expected to nearly triple by 2035. While the 2008 RTP focuses on the land transport aspects of goods movement (e.g., freight rail, high-speed regional transport, and highway), it recognizes the huge contribution and potential to goods movement from maritime transport and other marine activities in the ports.

3.2 Use of Latest Emission Estimation Techniques

The general conformity regulations require the use of the latest and most accurate emission estimation techniques available, unless such techniques are inappropriate (40 C.F.R. § 51.859(b)). Prior written approval from SCAQMD or EPA is required to modify or substitute emission estimation techniques. It should be noted that the latest and most accurate emission estimation techniques available at the time of this evaluation may differ from the emission estimation techniques used in establishing the applicable SIP emissions budgets. The details of emissions estimating are described in Attachment A. The emission estimation techniques used in this evaluation are generally consistent with those used in preparing the Draft and Final SEIS/SEIR (USACE/LAHD 2008a and 2008b, respectively). However, several differences should be noted between this evaluation and the Final EIS/EIR calculations. The changes made in this evaluation include:

- Off-road construction equipment engine load factors[3] have been included in the emission inventory calculations;
- On-road vehicles emissions have been limited to only those that occur on POLA property. For purposes of this evaluation, emissions attributable to on-road vehicles (e.g., construction worker vehicles, delivery trucks) associated with the Federal action are assumed to be accounted for in the conforming 2008 RTP since SCAG took port growth into account in developing the RTP and associated transportation conformity determination. Therefore, only emissions from these types of on-road vehicles that will occur on POLA property are included in this evaluation (see Sections 1.1 and 4.5.2);
- Emission factors from SCAQMD-provided tables for on-road and off-road engines were used directly;
- Tugboat and workboat emission factors from the "2008 Inventory of Air Emissions" were incorporated (POLA 2009);
- Stone delivery ship emissions are only included for those emissions that occur within 3 nautical miles of the shoreline; and
- The construction schedule was revised so that construction is assumed to start in 2010 and be completed in 2012, and the administration building was deleted from the project.

[3] Engine load factors are used to account for the time that equipment engines are operating, but not at 100 percent of the rated load. These load factors range from 0.20 to 0.80 for most construction equipment, with values around 0.5 being typical. Load factors have been provided by SCAQMD (SCAQMD 1993). An analysis that does not include the load factors assumes that all construction equipment operates at 100 percent load whenever the engine is on.

3.3 Emission Scenarios

The general conformity regulations require that the evaluation must reflect certain emission scenarios (40 C.F.R. §51.859(d)). Specifically, these scenarios must include emissions from the Federal action for the following years: (1) for nonattainment areas, the year mandated in the Clean Air Act for attainment and for maintenance areas, the farthest year for which emissions are projected in the approved maintenance plan; (2) the year during which the total of direct and indirect emissions for the Federal action are projected to be the greatest on an annual basis; and (3) any year for which the applicable SIP specifies an emissions budget. These emission scenarios will be described in more detail in Section 5. **Table 3-1** specifies the years for which the general conformity evaluation was performed for comparison to the approved SIP. **Table 3-2** specifies the years for which the general conformity evaluation was performed for comparison to the proposed SIP revisions.

Table 3-1
Emission Scenario Years for General Conformity Evaluation based on 1997/99 SIP

Pollutant	Attainment/ Maintenance	Greatest Emission Year	Emissions Budget Years
Ozone (VOC or NO_x)	2010	2010 (for NOx) 2011 (for VOC)	2010,2020[a.]

Source: Camp Dresser & McKee Inc., 2010.
a. Federal action construction does not extend to 2020; therefore, no comparisons to 2020 budgets are included.

Table 3-2
Emission Scenario Years for General Conformity Evaluation based on 2007 AQMP

Pollutant	Attainment/ Maintenance	Greatest Emission Year	Emissions Budget Years
Ozone (VOC or NO_X)	2020[a,b]	2010 (for NOx) 2011 (for VOC)	2010, 2011, 2014[a.],2017[a.],2020[a.],2023[a.],2030[a.].

Source: Camp Dresser & McKee Inc., 2010.
a. Federal action construction does not extend into 2014 or later; therefore, no comparisons to budgets for years beyond 2011 are included.
b. The current designation of the region is Severe-17, which indicates an attainment year of 2021. Since the ozone season extends into the Autumn, attainment must be demonstrated by the end of the ozone season in 2020.

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Section 4
Applicability Analysis

As stated previously, the first step in a general conformity evaluation is an analysis of whether the requirements apply to a Federal action proposed to be taken in a nonattainment or a maintenance area. Unless exempted by the regulations or otherwise presumed to conform, a Federal action requires a general conformity determination for each pollutant where the total of direct and indirect emissions caused by the Federal action would equal or exceed an annual de minimis emission rate. Notwithstanding the de minimis emission rate, if a Federal action is identified to be regionally significant, the Federal agency must make a general conformity determination.

4.1 Attainment Status of South Coast Air Basin

POLA is located within Los Angeles County in the SCAB of southern California. The regulatory agencies with primary responsibility for air quality management in the SCAB include SCAQMD and CARB, with oversight by EPA. Pursuant to the Clean Air Act, EPA established primary NAAQS to protect the public health with an adequate margin of safety and secondary NAAQS to protect the public welfare for seven air pollutants. These pollutants are known as criteria pollutants: particulate matter with an equivalent aerodynamic diameter less than or equal to ten micrometers (μm) in diameter (PM_{10}), particulate matter with an equivalent aerodynamic diameter less than or equal to 2.5 μm in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), and lead (Pb). EPA has delegated authority to SCAQMD to implement and enforce the NAAQS in the SCAB.

That portion of the SCAB encompassing POLA is in an area that is designated as being in nonattainment of the NAAQS for O_3 (eight-hour average), PM_{10}, and $PM_{2.5}$. In addition, the severity of the nonattainment status for this area has been classified as "severe" for O_3 and "serious" for PM_{10}, but it is not classified for $PM_{2.5}$. On July 24, 1998, this area was redesignated from nonattainment to attainment/maintenance status for NO_2 by EPA (63 FR 39747). More recently, the area was redesignated by EPA from nonattainment to attainment/maintenance for CO (72 FR 26718), effective June 11, 2007. The area is in attainment of the NAAQS for SO_2 and Pb. Thus, for purposes of the general conformity requirements, this evaluation addresses NO_2, O_3 (eight-hour average), CO, PM_{10}, and $PM_{2.5}$.

4.2 Exemptions from General Conformity Requirements

As noted previously, the general conformity requirements apply to a Federal action if the net project emissions equal or exceed certain de minimis emission rates. The only exceptions to this applicability criterion are the topical exemptions summarized below. However, the emissions that would be caused by the Federal action do not meet any of these exempt categories.

- Actions which would result in no emissions increase or an increase in emissions that is clearly below the de minimis levels (40 C.F.R. § 51.853(c)(2)). Examples include administrative actions and routine maintenance and repair.
- Actions where the emissions are not reasonably foreseeable (40 C.F.R. § 51.853(c)(3)).
- Actions which implement a decision to conduct or carry out a conforming program (40 C.F.R. § 51.853 (c)(4)).
- Actions which include major new or modified sources requiring a permit under the New Source Review (NSR) program (40 C.F.R. § 51.853(d)(1)).
- Actions in response to emergencies or natural disasters (40 C.F.R. § 51.853(d)(2)).
- Actions which include air quality research not harming the environment (40 C.F.R. § 51.853(d)(3)).
- Actions which include modifications to existing sources to enable compliance with applicable environmental requirements (40 C.F.R. § 51.853(d)(4)).
- Actions which include emissions from remedial measures carried out under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) that comply with other applicable requirements (40 C.F.R. § 51.853(d)(5)).

In addition to these topical exemptions, the general conformity regulations allow each Federal agency to establish a list of activities that are presumed to conform (40 C.F.R. § 51.853(f)). The USACE has not established a presumed-to-conform list of activities at the time of this evaluation.

4.3 De Minimis Emission Rates

The general conformity requirements will apply to the Federal action for each pollutant or precursor for which the total of direct and indirect emissions caused by the Federal action equal or exceed the de minimis emission rates shown in **Table 4-1**. These emission rates are expressed in units of tons per year (tpy) and are compared to the total of direct and indirect emissions caused by Federal action for the calendar year during which the net emissions are expected to be the greatest. It should be noted that, because O_3 is a secondary pollutant (i.e., it is not emitted directly into the atmosphere but is formed in

the atmosphere from the photochemical reactions of volatile organic compounds, VOC, and oxides of nitrogen, NO_x, in the presence of sunlight), its de minimis emission rate is based on primary emissions of its precursor pollutants - VOC and NO_x. If the net emissions of either VOC or NO_x exceed the de minimis emission rate for O_3 (EPA 1994), then the Federal action is subject to a general conformity evaluation for O_3.

The region in which the project is located has been classified as a "severe" non-attainment area for the eight-hour O_3 NAAQS, which carries a 25 tpy de minimis emission rate for NO_x and VOC. However, the currently approved SIP (1997 AQMP, as amended in 1999) was developed to demonstrate attainment of the revoked one-hour O_3 NAAQS by 2010. At that time the region had been classified as an "extreme" nonattainment area for O_3, which carries a 10 tpy de minimis emission rate for NO_x and VOC. In addition, SCAQMD requested re-classification (bump up) to "extreme" nonattainment for the eight-hour O_3 NAAQS in the 2007 AQMP, and EPA approved the bump up which will be effective June 4, 2010.

Further, the pollutant $PM_{2.5}$ consists of primary particulate matter (directly emitted) and secondary particulate matter (formed in the atmosphere from precursor compounds) and may ultimately be composed of many separate chemical compounds. Generally, the main precursors of secondary $PM_{2.5}$ include oxides of nitrogen (NO_x), oxides of sulfur (SO_x), and ammonia, although organic carbon compounds (VOC) also contribute to the formation of $PM_{2.5}$. Dynamic reactions between these precursor compounds emitted into the atmosphere by the sources of interest will affect the amount of $PM_{2.5}$ attributable to the Federal action. Based on studies conducted by SCAQMD in the SCAB, in general, the total mass of $PM_{2.5}$ is more associated with combustion-related sources and secondary particles formed therefrom, and primary particles represent a relatively small proportion of total $PM_{2.5}$ mass. In fact, ammonium nitrates and ammonium sulfates represent a dominant fraction of $PM_{2.5}$ components in the SCAB. If the net emissions of any of these precursor compounds exceed the de minimis emission rate for $PM_{2.5}$, then the Federal action is subject to a general conformity evaluation for $PM_{2.5}$. Ammonia emissions are not associated with the sources that are included in the Federal action (CARB 2009), therefore, no further analysis is conducted for ammonia as a $PM_{2.5}$ precursor.

4.4 Regional Significance

Even if a Federal action is less than the applicable de minimis emission rate for a given pollutant, the general conformity requirements state that a regionally significant action must undergo a conformity evaluation. A regionally significant action is one for which the total of direct and indirect emissions represent ten percent or more of the nonattainment or maintenance area's emissions inventories for all sources (as identified in the applicable SIP for stationary point, mobile, and area sources) for that pollutant. EPA guidance also indicates that any milestone emissions inventory in the applicable SIP should also be considered when evaluating regional significance (EPA 1994).

Table 4-1
De Minimis Emission Rates for Determining Applicability of General Conformity Requirements to the Federal Action

Pollutant	SCAB Attainment Status Designations	De Minimis Emission Rate (tpy)
Nitrogen Dioxide	Attainment/Maintenance	100
Ozone (VOC or NO_x)	Nonattainment/Severe-17 [a]	25 [a]
Carbon Monoxide	Attainment/Maintenance	100
Particulate Matter PM_{10}	Nonattainment/Serious	70
Particulate Matter $PM_{2.5}$ (and each separate precursor) [b]	Nonattainment	100

a. U.S. EPA has reclassified the South Coast Air Basin as an "extreme" nonattainment area for the eight-hour ozone NAAQS (75 FR 24409, May 5, 2010), effective June 4, 2010. This reclassification will lower the general conformity de minimis emission rate for NOx and VOC to 10 tpy. The Federal action associated with the PLAMT Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines project already requires a full general conformity evaluation under the "severe-17" classification; therefore, the change in classification would not change the requirement for, or analyses included in, the general conformity evaluation provided in this document.

b. The $PM_{2.5}$ precursors in the region include SO_x, NO_x, VOC, and ammonia. Ammonia emissions are not associated with the sources that are included in the Federal action (CARB 2009), therefore, no further analysis is conducted for ammonia as a $PM_{2.5}$ precursor.

4.5 Applicability for Federal Action

The applicability of the general conformity requirements to the Federal action was evaluated by comparing the total of direct and indirect emissions (calculated as discussed in Attachment A) for the calendar year of greatest emissions to the de minimis emission rates specified in Table 4-1. Where the total of direct and indirect emissions attributable to the Federal action were found to be excluded from the general conformity requirements because they are below the de minimis emission rates for a pollutant, the total of direct and indirect emissions for that pollutant were compared to the nonattainment or maintenance area's emission inventory for that pollutant to determine whether it is regionally significant. Those pollutants that could not be excluded from applicability by both of these mechanisms underwent a complete general conformity evaluation consistent with the procedures in Section 3 above using the methods in Attachment A and the criteria in Section 5 below.

4.5.1 Methodology

Attachment A contains a discussion of the approach used for estimating emissions for this general conformity evaluation and the resulting emission inventories for the Federal action. In general, the equipment parameters and construction activities have been described in the Final SEIS/SEIR (USACE/LAHD2008b); see Section 3.2 for a discussion of differences between the Final SEIS/SEIR and this evaluation. This information has been incorporated into the emission calculations presented in Attachment A, and summarized below.

4.5.2 Estimated Emissions and Comparison to De Minimis

Emissions were calculated for VOC, CO, NO_x, PM_{10}, and $PM_{2.5}$ (including precursors) for construction activities associated with the Federal action. For purposes of this evaluation, emissions of NO_2 are assumed to equal emissions of NO_x. These emissions are associated with mobile and area sources expected to be used for on-site construction-related purposes. Off-site construction-related on-road emission sources (e.g., construction worker commute trips, material delivery hauling trips, debris/spoils disposal hauling trips) are assumed to be accounted for in the conforming 2008 RTP (due to the extensive discussions of, and plans for growth in, goods movement in the SCAG region presented in that document, and the SCAG statements included in Attachment B), and they are therefore excluded from consideration of general conformity herein (40 C.F.R. § 51.858(a)(5)(ii)). Emissions related to operations of the Project at POLA subsequent to the completion of the Federal action addressed herein are not included in the total of direct and indirect emissions associated with the Federal action because the USACE has determined that it has no legal authority to control those emissions-generating operational activities (i.e., USACE lacks continuing program responsibility over the Project once the construction activities in and over navigable waters of the U.S. are completed) (USACE 1994).

The total Federal action emissions are summarized in **Table 4-2** for the entire construction period regardless of the individual year or years that each construction activity occurs. The resulting calculations indicate that emissions of VOC (as a precursor of both O_3 and $PM_{2.5}$), CO, and NO_x (only as a precursor of both O_3 and $PM_{2.5}$) could potentially exceed the general conformity de minimis emission rates presented in Table 4-1. Therefore, emissions of VOC, CO, and NO_x are analyzed to determine the peak annual emission rates. The Federal action emissions of SO_x, PM_{10}, or $PM_{2.5}$, which would be below the de minimis emission rates, are compared to the regional emissions in Section 4.5.3 to verify that project emissions do not represent ten percent or more of the regional budgets.

The Federal action annual VOC, CO, and NO_x emission rates for each year during the construction period are summarized in **Table 4-3**. The peak annual emissions of VOC and CO are 14.3 tpy and 41.6 tpy, respectively, and are estimated to occur in 2011. The peak annual emissions of NOx is 79.5 tpy, and is estimated to occur in 2010. The VOC and CO peak annual emission rates do not exceed the general conformity de minimis emission rates presented in Table 4-1. Therefore, the Federal action emissions of VOC and CO are also compared to the regional emissions in Section 4.5.3 to verify that project emissions do not represent ten percent or more of the regional budgets. The annual NOx emission rate for each year exceeds the de minimis emission rate for an O_3 precursor only. Therefore, a complete conformity evaluation is included for NO_x emissions in the general conformity determination.

Table 4-2
Total Federal Action Emissions (with CEQA Mitigation) and Comparison to De Minimis Emission Rates

Construction Projects & Activities	Emission Rates, tons [a.]					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Wharf Construction						
Mobilization	0.14	0.51	1.37	0.001	0.05	0.05
Demobilization	0.13	0.51	1.36	0.001	0.05	0.05
Unloading Platforms	0.27	1.04	2.87	0.002	0.12	0.11
Breasting Dolphin Platforms	0.47	1.78	5.17	0.004	0.21	0.20
Mooring Dolphin Platforms	0.79	3.02	8.03	0.006	0.32	0.30
Trestle Abutments	0.04	0.12	0.17	0.000	0.01	0.01
Main Trestle	0.19	0.74	1.82	0.002	0.07	0.07
Single Lane Trestle to Breasting Dolphin	0.16	0.61	1.53	0.001	0.06	0.06
Utility Boat Floating Dock & Gangway	0.07	0.25	0.78	0.001	0.03	0.03
Wave Screen	0.17	0.65	1.91	0.002	0.08	0.07
Emergency Spill Boom Platforms	0.18	0.73	1.72	0.001	0.07	0.07
Terminal Backlands	10.43	10.56	17.98	---	4.77	1.45
Wharf Construction Total (tons)	**13.04**	**20.52**	**44.69**	**0.021**	**5.84**	**2.45**
Pipeline Construction						
42" – 36" – Terminal Island	2.19	9.32	17.33	0.02	0.85	0.52
36" – HDD / Open Cut / Assist HDD - Wilmington	3.60	.16.19	25.30	0.03	1.76	0.92
24" – Valero	0.44	1.86	3.33	0.00	0.29	0.13
Pipeline Construction Total (tons)	**6.22**	**27.36**	**45.96**	**0.06**	**2.90**	**1.56**
Tank Farm Construction – Site 1: Phase 1						
Soil Stabilization	1.03	5.35	9.46	0.01	0.28	0.25
Construction	1.66	7.33	12.30	0.02	0.39	0.35
Tanks (2-250,000 Bbl, 1-50,000 Bbl, 1-15,000Bbl)[b.]	0.68	2.37	4.82	0.01	4.29	0.99
Tank Farm Construction – Site 2: Phase 1						
Soil Stabilization	1.44	6.88	12.06	0.02	0.36	0.33
Construction	3.54	15.76	26.08	0.03	0.82	0.75
Tanks (8-250,000 bbl)[b.]	2.22	7.79	15.95	0.02	2.34	0.80
Tank Farm Construction–Phase 1 Total (tons)	**10.56**	**45.47**	**80.68**	**0.10**	**8.48**	**3.48**
Tank Farm Construction – Site 2: Phase 2						
Construction	1.25	5.60	9.00	0.01	0.30	0.27
Tanks (6-250,000 bbl)[b.]	0.84	2.89	6.22	0.01	2.06	0.54
Tank Farm Construction–Phase 2 Total (tons)	**2.09**	**8.49**	**15.22**	**0.02**	**2.36**	**0.81**

Table 4-2
Total Federal Action Emissions (with CEQA Mitigation) and Comparison to De Minimis Emission Rates (continued)

Construction Projects & Activities	Emission Rates, tons [a.]					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Stone Delivery						
Vessels	0.00	0.13	1.58	0.00	0.00	0.00
Haul Trucks	0.34	0.95	3.10	0.00	0.12	0.10
Stone Delivery Total (tons)	**0.34**	**1.08**	**4.68**	**0.00**	**0.12**	**0.10**
PROJECT CUMULATIVE EMISSIONS (tons)[a.,c.]	**32**	**103**	**191**	**0.20**	**20**	**8**
General Conformity de minimis emission rate (tpy) [d.]	**25**	**100**	**25**	**100**	**70**	**100**
Were the de minimis emission rates exceeded?	**Yes [e.]**	**Yes [e.]**	**Yes[e.]**	**No**	**No**	**No**

Source: Camp Dresser & McKee Inc., 2010.

a. Emissions shown are for entire construction duration, not peak annual.
b. LAHD and the future tenant have been discussing reducing a portion of the storage capacity previously proposed at Tank Farm Site 1 and replacing it at Tank Farm Site 2, but the total combined storage capacity would be unchanged (4.0 million barrels).
c. Value calculated based on assumption that CEQA-required mitigation was applied.
d. The de minimis rates are meant to be compared to peak annual emissions. If total Federal action emissions exceed the de minimis emission rates, then annual emissions will be determined.
e. Federal action VOC, CO, and NOx emissions exceeded the threshold; peak annual VOC, CO, and NOx emissions are calculated (see Table 4-3).

Table 4-3
Federal Action Annual VOC, CO, and NO_x Emission Rates (with CEQA Mitigation) and Comparison to De Minimis Emission Rates

Construction Project	VOC, CO, and NO_x Emission Rates by year, tpy								
	2010			2011			2012		
	VOC	CO	NOx	VOC	CO	NOx	VOC	CO	NOx
Wharf Construction	1.5	5.6	15.7	1.1	4.4	11.0	---	---	---
Pipeline Construction	2.8	12.3	21.2	1.4	6.0	10.2	2.0	9.0	14.6
Tank Farm Construction – Site 1 & Site 2 – Phase 1	4.7	20.9	36.8	6.5	25.6	45.0	1.7	6.5	11.7
Tank Farm Construction – Site 2: Phase 2	0.2	0.7	1.1	5.2	5.7	10.4	4.7	5.3	9.1
Stone Delivery	0.4	1.1	4.7	---	---	---	---	---	---
ANNUAL VOC, CO, and NO_x EMISSIONS (tpy)[a.]	**9.6**	**40.7**	**79.5**	**14.3**	**41.6**	**76.5**	**8.4**	**20.7**	**35.4**
General Conformity de minimis emission rate (tpy)	**25**	**100**	**25**	**25**	**100**	**25**	**25**	**100**	**25**
Was the de minimis emission rate exceeded?	**No**	**No**	**Yes**	**No**	**No**	**Yes**	**No**	**No**	**Yes**

Source: Camp Dresser & McKee Inc., 2010.

a. Annual emissions from the potential temporary piles (up to 12) identified in the USACE Special Public Notice dated February 19, 2010 (Draft General Conformity Determination and Additional Information Pertaining to Department of the Army Permit Application for the Pacific L.A. Marine Terminal LLC Crude Oil Terminal Project, Port of Los Angeles) would be less than 1 tpy for NO_x and less than 0.1 tpy for VOC. These additional emissions have not been included in the project total emissions in Table 4-3 because the need for these temporary piles is highly speculative at this time. The general conformity evaluation provided in Section 5 will not be affected if these emissions are included.

4.5.3 Regional Significance

The totals of direct and indirect emissions of VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$ for the Federal action are compared to the regional emissions inventories of these pollutants prepared by SCAQMD for the SCAB. Two comparisons are presented, using data taken from the 1997 Air Quality Management Plan (AQMP) (SCAQMD 1996), which contains the currently approved SIP budgets, and from the 2007 AQMP (SCAQMD 2007). To be conservative, the lowest annual emissions from each of these documents between 2008 and 2011 are used for this calculation. The results of this comparison are summarized in **Table 4-4**. As one can see, the Federal action's totals are much less than ten percent of the SCAB emissions inventories; therefore, the Federal action is not regionally significant for VOC, CO, SO_x, PM_{10}, or $PM_{2.5}$. While the emissions of NO_x are less than the de minimis emission rates for NO_2 and for a precursor of $PM_{2.5}$, it was not evaluated for regional significance for those pollutants because it is being fully evaluated as a precursor of O_3.

Table 4-4
Comparison of Federal Action Emissions for Regional Significance

Pollutant	Total Federal Action Emissions (tons)[a.]	Approved SIP Emissions (tpy)[b.]	Percent of Approved SIP	2007 AQMP Emissions (tpy)[c.]	Percent of 2007 AQMP
VOC	32	150,955	0.021%	153,300	0.021%
CO	103	885,301	0.012%	744,235	0.014%
SO_x	0.2	25,769	0.0008%	6,935	0.0028%
PM_{10}	20	120,687	0.016%	[d.]	[d.]
$PM_{2.5}$	8	[d.]	[d.]	31,755	0.026%

Source: Camp Dresser & McKee Inc., 2010.

a. Total emissions caused by the Federal action include all construction emissions regardless of the year or years over which these emissions occurred. Therefore, the Federal action emissions are the most conservative (high) that could be used for this comparison.

b. Based on data in 1997 AQMP Appendix V.(controlled inventories in 2010), multiplied by 365 days per year.

c. Based on data in 2007 AQMP Appendix V (carrying capacities in 2015 for $PM_{2.5}$ and SO_x, and in 2023 for VOC and CO), multiplied by 365 days per year.

d. No budgets were developed in the currently approved SIP for $PM_{2.5}$ or in the 2007 AQMP for controlled PM_{10}.

4.5.4 Applicability Determination

The total of direct and indirect emissions of VOC[4], CO, SO_x, PM_{10}, and $PM_{2.5}$ are less than the general conformity de minimis threshold emission rates and the Federal action is not regionally significant for any of these pollutants. Therefore, the general conformity requirements do not apply to these pollutants, and there will be no further evaluation of these pollutants herein.

Because the total of direct and indirect emissions of NO_x exceeds the "severe" O_3 non-attainment area general conformity de minimis emission rate identified in Section 4.3, the general conformity requirements do apply to NO_x. Subsequent sections of this document will address the general conformity evaluation of NO_x as applicable to the Federal action.

[4] If this Final General Conformity Determination were being made and published on or after June 4, 2010, the Federal action would require a determination for VOC since the predicted VOC emissions for 2011 exceed 10 tons per year. However, the publication date of this Final General Conformity Determination is June 1, 2010. Regardless, the evaluation presented below in Section 5.2.1 for NO_x would also be valid for VOC as both pollutants are O_3 precursors and as such are treated similarly for SIP planning purposes.

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Section 5
General Conformity Evaluation

For Federal actions subject to a general conformity evaluation, the regulations delineate several criteria that can be used to demonstrate conformity (40 C.F.R. § 51.858). In fact, a combination of these criteria may be used to support a positive general conformity determination (EPA 1994). The approach to be taken to evaluate the Federal action relies on these available criteria, and the remainder of this section summarizes the findings to make the determination.

5.1 Designation of Applicable SIP

Section 110(a) of the Clean Air Act (42 U.S.C. § 7410(a)) requires each state to adopt and submit to EPA a plan which provides for the implementation, maintenance, and enforcement of each NAAQS. This plan is known as the SIP. Over time, states have made and continue to make many such submittals to EPA to address issues as they arise related to the various NAAQS. As EPA reviews these submittals, it can either approve or disapprove them in whole or in part. The compilation of a state's approved submittals constitutes that state's applicable SIP. In California, the state agency responsible for preparing and maintaining the SIP is CARB.

5.1.1 SIP Process in the South Coast Air Basin

CARB designates both air quality management districts and air pollution control districts within California for the purpose of implementing and enforcing ambient air quality standards on a regional or airshed basis. These district agencies must prepare regional plans (Air Quality Management Plans [AQMPs]) to support the broader SIP, as well as to meet the goals of the California Clean Air Act. The South Coast Air Quality Management District (SCAQMD) is the local air district for the Port of Los Angeles.

Every three years, SCAQMD must prepare and submit to CARB an AQMP to demonstrate how the SCAB will attain and maintain the NAAQS and the California ambient air quality standards. The AQMP contains extensive emissions inventories of all emission sources in the SCAB as well as various control measures applicable to most of these sources. Once CARB approves the AQMP, it is submitted to EPA for approval into the SIP. The approved O_3 SIP for the SCAB is based on the AQMP which SCAQMD submitted to CARB in 1997 (SCAQMD 1996) and supplemental information as discussed in Section 5.1.2.

In August 2003, SCAQMD submitted to CARB the final 2003 AQMP (SCAQMD 2003), and this formed the basis of a proposed SIP revision submitted by CARB to EPA on January 9, 2004. In October 2008, EPA proposed to approve portions and disapprove portions of the proposed revisions to the South Coast SIP included in the 2003 AQMP (73 FR 63408). Among those portions proposed for approval were the base year and baseline emissions inventories for O_3 precursors and NO_2. Among those portions

proposed for disapproval were the rate-of-progress and attainment demonstrations. The final partial approval and partial disapproval were published in March 2009 (74 FR 10176). The disapproved portions of the 2003 AQMP were not required under the Clean Air Act, because they represent revisions to previously approved SIP elements. Therefore, the disapprovals neither trigger sanctions clocks nor EPA's obligation to promulgate a Federal implementation plan for lack of an approved SIP. Because the 2003 AQMP rate-of-progress and attainment demonstrations were not approved by EPA, the 1997/1999 SIP remains the currently applicable SIP for O_3.

In June 2007, SCAQMD submitted to CARB the final 2007 AQMP (SCAQMD 2007), and this formed the basis of a proposed SIP revision submitted by CARB to EPA on November 16, 2007. On August 27, 2009 (74 FR 43654), EPA proposed to grant a request from the state of California to reclassify the SCAB to "extreme" nonattainment for O_3, and it has signaled that it will take action on the 2007 AQMP in a separate rulemaking. On May 5, 2010 (75 FR 24409), EPA promulgated the reclassification of the SCAB to "extreme" nonattainment for O_3, effective on June 4, 2010.

5.1.2 Status of Applicable SIP and Emissions Budgets by Pollutant

The Clean Air Act requires attainment of the NAAQS as expeditiously as practicable, but no later than the statutory dates for those criteria pollutants for which the SCAB is designated nonattainment and for which a finding of general conformity must be determined for the Federal action. Upon redesignation of an area from nonattainment to attainment for each standard, the area will be considered to be a maintenance area for that standard (pursuant to Section 175A of the Clean Air Act), and as such, must meet all applicable requirements to maintain the standard.

To support the general conformity determination, the USACE demonstrates herein that the emissions of NO_x (as an O_3 precursor) caused by the Federal action conform to the purpose of the SIP through a combination of the criteria at 40 C.F.R. § 51.858; see Section 5.2 below. The currently approved SIPs for the SCAB are summarized below.

- O_3: SIP approved by EPA on April 10, 2000 (65 FR 18903), based on the 1997 AQMP and a 1999 amendment to the 1997 AQMP.

- CO: SIP approved by EPA on May 11, 2007 (72 FR 26718), based on 2005 redesignation request and maintenance plan. In this SIP approval, EPA also redesignated the SCAB from nonattainment to attainment/maintenance for CO.

- PM_{10}: SIP approved by EPA on April 18, 2003 (68 FR 19315), based on the 1997 AQMP, amendments to the 1997 AQMP submitted in 1998 and 1999, and further modifications to the 1997 AQMP submitted in a status report to EPA in 2002.

- $PM_{2.5}$: No EPA-approved SIP.

- NO_2: SIP approved by EPA on July 24, 1998 (63 FR 39747), based on the 1997 AQMP. In this SIP approval, EPA also redesignated the SCAB from nonattainment to attainment/maintenance for NO_2.

SCAQMD released the final 2007 AQMP on June 1, 2007, and as noted above that AQMP formed the basis of a proposed SIP revision submitted to EPA. This evaluation will make comparisons both to applicable emissions inventories in the current EPA-approved SIP and to applicable emissions inventories contained in the 2007 AQMP. For purposes of the general conformity determination, the applicable SIP will be the most recent EPA-approved SIP at the time of the release of the final general conformity determination.

5.2 Comparison to SIP Emissions Inventories

Under the general conformity regulations, a Federal action can be determined to conform to the applicable SIP for O_3 if the action is specifically identified and accounted for in the SIP's attainment demonstration, if the total of direct and indirect emissions from the action are fully offset within the same nonattainment area by a federally enforceable measure, or if the state agency responsible for the SIP determines and documents that the total of direct and indirect emissions from the action can be accommodated within the SIP emissions budgets. The Federal action described herein is not specifically identified or accounted for in the approved SIP, and USACE does not plan to rely on emission offsets to demonstrate conformity. The following discussion summarizes a determination from the SCAQMD (Attachment D), the agency responsible for developing the SCAB portion of the SIP, that demonstrates the Federal action as described herein conforms to the SIP.

5.2.1 NO_x Emissions from Construction Sources Under the Federal Action

At the time that SCAQMD prepared the 1997 AQMP, LAHD had already announced its intention to undertake the Project, as evidenced by The 2020 Plan and the 1992 Deep Draft Final EIS/EIR (see Section 2.2). In fact, SCAQMD acknowledged The 2020 Plan on page III-1-12 in Appendix 3 of the 1997 AQMP. For this reason, it is evident that the 1997 AQMP should contain estimates of emissions for construction activities under any of the build alternatives, including the Federal action addressed herein. However, as noted by SCAQMD (Attachment D), no specific ports projects are identified or accounted for in the approved SIP for the SCAB (i.e., 1997/99 AQMP).

As noted in the preceding section, the most recent EPA-approved SIP at the time of the release of the final general conformity determination must be used for emission budget analyses. The 1997 AQMP together with supplemental information form the basis for the current, EPA-approved O_3 SIP as noted in Section 5.1.2. However, as noted by SCAQMD (Attachment D), EPA believes that current emissions estimates for the SCAB already exceed the emissions budgets in the approved SIP. Therefore, SCAQMD cannot determine or document that the total of direct and indirect emissions for the Federal

action, together with all other emissions in the nonattainment area, would not exceed the emissions budgets specified in the approved SIP.

The general conformity evaluation and findings below are based on a determination by SCAQMD (Attachment D) that the 2007 AQMP represents a written commitment for a SIP revision that accommodates the Federal action.

Specifically, at 40 C.F.R. § 51.858(a)(5)(i)(B), where the State determines that the total of direct and indirect emissions from a Federal action, together with all other emissions in the nonattainment area, would exceed the emissions budgets specified in the approved SIP, the State can make a written commitment to EPA to accommodate a specific project's emissions via a SIP revision. Such a SIP revision would include:

> (1) a specific schedule for adoption and submittal of a revision to the SIP which would achieve the needed emission reductions prior to the time emissions from the Federal action would occur; (2) identification of specific measures for incorporation into the SIP which would result in a level of emissions which, together with all other emissions in the nonattainment or maintenance area, would not exceed any emissions budget specified in the applicable SIP; (3) a demonstration that all existing applicable SIP requirements are being implemented in the area for the pollutants affected by the Federal action, and that local authority to implement additional requirements has been fully pursued; (4) a determination that the responsible Federal agencies have required all reasonable mitigation measures associated with their action; and (5) written documentation including all air quality analyses supporting the conformity determination.

As noted by SCAQMD (Attachment D), it believes the necessary SIP revision called for under 40 C.F.R. § 51.858(a)(5)(i)(B) has already been satisfied through submittal of the 2007 AQMP as a proposed SIP revision for the SCAB and that the 2007 AQMP accommodates the O_3 precursor emissions from the Federal action.

Regarding item (1) above, a schedule for adoption and submittal of a SIP revision is unnecessary because the necessary SIP revisions have already been submitted; see discussion in Section 5.1.1.

Regarding item (2) above, Chapter 4 of the 2007 AQMP sets forth new and amended control measures and strategies intended to meet the requirement to demonstrate reasonable further progress and attainment of the 1997 eight-hour O_3 NAAQS. The USACE believes that, when implemented, these measures would result in emissions from the Federal action, along with all other emissions in the nonattainment area, that would not exceed any emissions budget.

Regarding item (3) above, Chapter 7 of the 2007 AQMP includes specific discussions of the issue of plan implementation; also, CARB is acting on its current SIP commitments

as evidenced in recent submittals to EPA. The USACE believes that these conditions demonstrate appropriate implementation of existing SIP requirements.

Regarding item (4) above, SCAQMD believes that the Project, as described in the Final SEIS/SEIR, now includes all reasonable CEQA-related mitigation measures by incorporating SCAQMD's comments on mitigation included in the Draft SEIS/SEIR.

Regarding item (5) above, in addition to the detailed technical documentation in the 2007 AQMP that supports the proposed SIP revision, the USACE understands that SCAQMD believes the 2007 AQMP accommodates the emissions from the Federal action. In particular, the emissions associated with the Project were envisioned in the 2007 AQMP through the growth projection of port expansion and construction activities provided by SCAG. SCAG recently noted (SCAG 2007) that current and projected activity levels at the Port of Los Angeles and Port of Long Beach are routinely submitted by the ports to SCAG and incorporated into the RTP. Specifically, SCAG indicated that Port of Los Angeles forecasted activity levels have been incorporated into the 1994, 1998, 2001, 2004, and 2008 RTPs. Because the 2004 RTP was used to develop the 2007 AQMP emission inventories (SCAQMD 2007, Appendix III) and growth on the marine terminal project site has been part of those plans, it is evident that the 2007 AQMP should contain estimates of emissions for construction activities under any of the build alternatives, including the Federal action addressed herein.

In addition, the current economic recession is providing margin to accommodate unanticipated emissions in the SCAB. The recession has produced lower cargo handling activities at the Ports of Los Angeles and Long Beach. This economic downturn has provided temporary emission reductions that will "offset" near-term increases in construction emissions from the proposed Federal action. Annual Port of Los Angeles container volume dropped each calendar year since the peak in 2006 of 8.47 million twenty-foot equivalent units (TEUs) (POLA 2010). By 2008, container volume had dropped by more than 600,000 TEUs/year from 2006, approximately a 7 percent reduction (POLA 2010). The 2009 container volume was 14 percent below the 2008 volume and 20 percent below the 2006 volume (POLA 2010). These reductions in container volume equate to substantial de facto reductions in emissions and, more importantly, are counter to the growth rates assumed in either the approved SIP or 2007 AQMP. While the growth rates assumed in the SIP or AQMP may resume in future years, it will proceed from a lower baseline than before, and there is no evidence at this time to expect that growth rates will accelerate to regain the projected emission levels included in either the approved SIP or 2007 AQMP for the years addressed in this evaluation.

The most recent emission inventory for the Port of Los Angeles is for the 2008 calendar year (POLA 2009), which indicates that the Port of Los Angeles NO_x emissions averaged 2 tons per 1000 TEUs. The 2009 container volume was 20 percent below the 2006 volume, representing a reduction of over 1.7 million TEUs and a reduction of 3,400 tons of NO_x per year. The container volumes at the Ports are not expected to grow again until after

2010. This substantial reduction in container volumes would more than compensate for the entire Federal action emissions of roughly 190 tons of NO_x over the three years of construction.

Lastly, the increase in construction emissions due to the Project is a nominal portion of the total baseline emissions for the 2007 AQMP emissions inventories and will result in a minimal impact to ambient air quality in the SCAB.

Based on the foregoing reasons, SCAQMD has concluded (Attachment D) that the emissions from the Federal action addressed herein would be accommodated by the proposed 2007 SIP revision and that that SIP revision may be relied on by the USACE to make a positive general conformity determination. Therefore, the Federal action conforms to the approved SIP through the SCAQMD's written commitment for a SIP revision and satisfies the conformity demonstration requirement under 40 C.F.R. § 51.858(a)(5)(i)(B).

5.2.2 NO_x Emissions from Other Sources at POLA

Notwithstanding the emissions attributable to the Federal action, NO_x emissions (operations-related) at POLA following completion of the construction of the Federal action may be similar to those that would have occurred in the absence of the Project, due to ongoing operations at POLA. However, it is the determination of the USACE that any change in future emissions at POLA following the implementation of the Federal action discussed herein are not subject to the continuing program responsibility of the USACE and therefore are not required to be addressed in this evaluation. Once construction activities in and over the water are completed, the USACE will retain little or no authority over the project's operational activities. However, these future emissions will remain subject to the continuing program responsibility of LAHD, as the local agency with lease and development control over projects in the Port of Los Angeles, and numerous CEQA-related mitigation measures, including many focused on limiting air emissions, will have to be implemented, maintained, and monitored pursuant to the MMRP included in the certified Final SEIR.

5.3 Consistency with Requirements and Milestones in Applicable SIP

The general conformity regulations state that notwithstanding the other requirements of the rule, a Federal action may not be determined to conform unless the total of direct and indirect emissions from the Federal action is in compliance or consistent with all relevant requirements and milestones in the applicable SIP (40 C.F.R. § 51.858(c)). This includes but is not limited to such issues as reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emission limits, and work practice standards. This section briefly addresses how the Federal action was assessed for SIP consistency for this evaluation.

5.3.1 Applicable Requirements from EPA

EPA has already promulgated, and will continue to promulgate, numerous requirements to support the goals of the Clean Air Act with respect to the NAAQS. Typically, these requirements take the form of rules regulating emissions from significant new sources, including emission standards for major stationary point sources and classes of mobile sources as well as permitting requirements for new major stationary point sources. Since states have the primary responsibility for implementation and enforcement of requirements under the Clean Air Act and can impose stricter limitations than EPA, the EPA requirements often serve as guidance to the states in formulating their air quality management strategies.

5.3.2 Applicable Requirements from CARB

In California, to support the attainment and maintenance of the NAAQS, CARB is primarily responsible for regulating emissions from mobile sources. In fact, EPA has delegated authority to CARB to establish emission standards for on-road and some non-road vehicles separate from the EPA vehicle emission standards, although CARB is preempted by the Clean Air Act from regulating emissions from many non-road mobile sources, including marine craft. Emission standards for preempted equipment can only be set by EPA.

5.3.3 Applicable Requirements from SCAQMD

To support the attainment and maintenance of the NAAQS in the SCAB, SCAQMD is primarily responsible for regulating emissions from stationary sources. As noted above, SCAQMD develops and updates its AQMP regularly to support the California SIP. While the AQMP contains rules and regulations geared to attain and maintain the NAAQS, these rules and regulations also have the much more difficult goal of attaining and maintaining the California ambient air quality standards.

5.3.4 Consistency with Applicable Requirements

In operating POLA, LAHD already complies with, and will continue to comply with, a myriad of rules and regulations implemented and enforced by Federal, state, regional, and local agencies to protect and enhance ambient air quality in the SCAB. In particular, due to the long persistence of challenges to attain the ambient air quality standards in the SCAB, the rules and regulations promulgated by CARB and SCAQMD are among the most stringent in the U.S. LAHD will continue to comply with all existing applicable air quality regulatory requirements for activities over which it has direct control and will meet in a timely manner all regulatory requirements that become applicable in the future. Likewise, LAHD actively encourages all tenants and users of its facilities to comply with applicable air quality requirements.

The nature and extent of the requirements with which LAHD complies and will continue to comply include, but are not limited to, the following.

- EPA Rule 40 C.F.R. Part 89, Control of Emissions from New and In-Use Non-road Compression-Ignition Engines: requires stringent emission standards for mobile non-road diesel engines of almost all types using a tiered phase in of standards.

- CARB Rule 13 C.C.R. § 1956.8, California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles: requires significant reductions in emissions of NO_x, particulate matter, and non-methane organic compounds using exhaust treatment on heavy-duty diesel engines manufactured in model year 2007 and later years.

- SCAQMD Rule 403, Fugitive Dust: identifies the minimum particulate controls for construction-related fugitive dust. For example, Rule 403 requires twice daily watering of all active grading or construction sites. Haul trucks leaving the facility must be covered and maintain at least two feet of freeboard (C.V.C. § 23114). Low emission street sweepers must be used at the end of each construction day if visible soil is carried onto adjacent public paved roads, as required by SCAQMD Rule 1186.1, Less-Polluting-Sweepers. Wheel washers must be used to clean off the trucks, particularly the tires, prior to them entering the public roadways.

- SCAQMD Rule 431.2, Sulfur Content of Liquid Fuels: requires that, after January 1, 2005, only low sulfur diesel fuel (containing 15 parts per million by weight sulfur) will be permitted for sale in the SCAB for any stationary- or mobile-source application.

- SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options: requires employers in the SCAB with more than 250 employees to implement an approved rideshare program and attain an average vehicle ridership of at least 1.5.

- City Council directive on diesel engine particulate traps, approved by the Mayor on December 2, 2002: requires that all existing City-owned and City-contracted diesel-fueled vehicles be retrofitted with particulate traps, which engines would henceforth be required to use ultra low sulfur diesel fuel (15 parts per million by weight or less); some exceptions include emergency vehicles and off-road vehicles.

Section 6
Mitigation

As part of a conformity evaluation, it may be necessary for the Federal agency to identify mitigation measures and mechanisms for their implementation and enforcement. For example, if a Federal action does not initially conform to the applicable SIP, mitigation measures could be pursued. If mitigation measures are used to support a positive conformity determination, the Federal agency must obtain a written commitment from the entity required to implement these measures and the Federal agency must include the mitigation measures as conditions in any permit or license granted for the Federal action (40 C.F.R. § 51.860). Mitigation measures may be used in combination with other criteria to demonstrate conformity. The Federal action as evaluated herein assumes various air quality mitigation measures as described in the Final SEIS/SEIR (USACE/LAHD 2008b) to meet CEQA requirements are part of the Project. Based on CEQA provisions that mitigation measures be required in, or incorporated into, the project (14 C.C.R. § 15091(a)(1)), the LAHD will implement, maintain, monitor, and enforce these CEQA-related air quality mitigation measures pursuant to the MMRP which are included in the certified Final SEIR; see Section 2.1 for more information on the CEQA-related mitigation measures. The USACE recognizes the LAHD, as the local responsible agency, will implement, maintain, monitor, and enforce numerous mitigation measures, including many focused on limiting air emissions, as required by the certified Final SEIR; however, the USACE lacks continuing program responsibility, control, and enforcement capability over mitigation measures continuing after construction activities in and over water are completed. Because the USACE has determined that the Federal action, which incorporates the above-mentioned CEQA-related mitigation measures, will conform to the Clean Air Act, no mitigation, as defined under the general conformity regulations (40 C.F.R. § 51.860) or guidance (EPA 1994), are required to support a positive general conformity determination.

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Section 7
Reporting

To support a decision concerning the Federal action, the USACE is issuing this final general conformity determination for public disclosure purposes.

7.1 Draft General Conformity Determination

The USACE provided copies of the draft general conformity determination to the appropriate regional offices of EPA, USCG, as well as to CARB, SCAQMD, and SCAG, and provided opportunity for a 30-day review. The USACE also placed a notice in a daily newspaper of general circulation in the SCAB announcing the availability of the draft general conformity determination and requested written public comments for a 30-day period. While not required, the USACE also published in the Federal Register a Notice of Availability of the Draft General Conformity Determination; this was concurrent with other noticing. No member of the public requested a copy of the draft general conformity determination, but the USACE would have provided a copy to any party requesting one.

7.2 Final General Conformity Determination

At a minimum, the USACE will provide copies of this final general conformity determination to the appropriate regional offices of EPA, USCG, as well as to CARB, SCAQMD, and SCAG, within the next 30 days. The USACE will also place a notice in a daily newspaper of general circulation in the SCAB announcing the availability of this final general conformity determination within 30 days. Moreover, the USACE expects to publish in the Federal Register a Notice of Availability of this final general conformity determination. As part of the general conformity evaluation, the USACE will document its responses to all comments received on the draft general conformity determination and will make both the comments and responses available upon request by any person within 30 days of making this final general conformity determination.

7.3 Frequency of General Conformity Determinations

The general conformity regulations state that the status of a specific conformity determination lapses five years after the date of public notification for the final general conformity determination, unless the action has been completed or a continuous program has been commenced to implement the action (40 C.F.R. § 51.857(a)).

As part of a phased program, the implementation of each element of the development of the Federal action does not require separate conformity determinations, even if they are begun more than five years after the final determination, as long as those elements are consistent with the original program which was determined to conform (EPA 2002). However, if this original conforming program is changed such that there is an increase in the total of direct and indirect emissions above the de minimis threshold levels, the USACE will conduct a new general conformity evaluation.

Section 8
Findings and Conclusions

As part of the environmental review of the Federal action, the USACE conducted a general conformity evaluation pursuant to SCAQMD Rule 1901 and 40 C.F.R. Part 51 Subpart W. The general conformity regulations apply at this time to any actions at POLA requiring USACE or USCG approval because the SCAB where POLA is situated is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$; and a maintenance area for NO_2 and CO. The USACE conducted the general conformity evaluation following all regulatory criteria and procedures and in coordination with EPA, USCG, CARB, SCAQMD, and SCAG. The USACE proposes that the Federal action as designed will conform to the approved SIP, based on the findings below:

- The Federal action is not subject to a general conformity determination for CO, VOC (as an O_3 and $PM_{2.5}$ precursor), NO_x (as a $PM_{2.5}$ precursor), NO_2, PM_{10}, $PM_{2.5}$, or SO_x (as a $PM_{2.5}$ precursor) because the net emissions associated with the Federal action are less than the general conformity de minimis thresholds and they are not regionally significant.

- SCAQMD has determined and documented that the O_3 precursors (NO_x and VOC) from the Federal action can be accommodated in the 2007 AQMP, which represents a written commitment from CARB and SCAQMD for a SIP revision incorporating the Project. The 2007 AQMP includes all of the necessary elements for a SIP revision that satisfies the conformity demonstration requirement under 40 C.F.R. § 51.858(a)(5)(i)(B).

Therefore, USACE herewith concludes that the Federal action as designed conforms to the purpose of the approved SIP and is consistent with all applicable requirements.

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Section 9
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Attachment A
Port of Los Angeles PLAMT Federal Action General Conformity Calculation Methodology and Results

CDM

CDM

Memorandum

To: *John Pehrson*

From: *Katie Travis*

Date: *2/09/10* (With minor edits on 6/01/10)

Subject: *Port of Los Angeles Pacific L.A. Marine Terminal LLC Crude Oil Terminal General Conformity Calculation Methodology*

The Port of Los Angeles (POLA) Proposed Pacific Los Angeles Marine Terminal Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines Project (proposed Project) requires a general conformity determination to comply with the requirements of the Clean Air Act general conformity regulations and to obtain a permit from the U.S. Army Corps of Engineers (USACE). This memo documents the methods and results used to calculate pollutant emissions from the proposed Project, the entirety of which can be defined as a Federal action, for use in this general conformity determination.

General Conformity Evaluation

The first step in the general conformity evaluation is to determine if emissions of the pollutants of concern are above the de minimis emission rates defined in the general conformity regulations (40 CFR 93.153(b)). This step is referred to as the applicability analysis. The pollutants of concern in the South Coast Air Basin (SCAB) are ozone (O_3) and its precursors, nitrogen dioxide (NO_2) and its precursor, carbon monoxide (CO), particulate matter with an equivalent aerodynamic diameter of 10 micrometers (PM_{10}), and particulate matter with an equivalent aerodynamic diameter of 2.5 micrometers ($PM_{2.5}$) and its precursors. The precursors of O_3 include oxides of nitrogen (NOx) and volatile organic compounds (VOC); the precursor of NO_2 is NOx; and the precursors of $PM_{2.5}$ include NOx, oxides of sulfur (SOx), VOC, and ammonia. Due to the severity of the O_3 nonattainment designation, the de minimis emission rates for NOx and VOC as O_3precursors (25 tons per year, tpy) are much more stringent than the de minimis emission rates for NOx and VOC as $PM_{2.5}$ precursors (100 tpy) or for NOx as a NO_2 precursor (100 tpy). Therefore, the de minimis emission rates for NOx and VOC will be set at 25 tpy of each as O_3 precursors for this evaluation.

Calculation Method

The general conformity analysis began with Federal action project information provided to CDM by Science Applications International Corporation (SAIC). The following data were included:

- Construction equipment details for all project phases: wharf construction, pipeline construction, site construction, and delivery trucks and vessels.
- Peak daily and total project criteria pollutant and greenhouse gas emissions by project phase incorporating CEQA mitigation.

Several adjustments were made to the data provided to CDM by SAIC for the purposes of this general conformity analysis. These adjustments include:

- Off-road construction equipment engine load factors2
- On-road vehicles emissions have been limited to only those that occur on POLA property. For purposes of this evaluation, emissions attributable to on-road vehicles (e.g., construction worker vehicles, delivery trucks) associated with the Federal action are assumed to be accounted for in the conforming 2008 RTP since SCAG took port growth into account in developing the RTP and associated transportation conformity determination. Therefore, only emissions from these types of on-road vehicles that will occur on POLA property are included in this evaluation (see Sections 1.1 and 4.5.2); have been included in the emission inventory calculations;
- Emission factors from SCAQMD-provided tables for on-road and off-road engines were used directly;
- Tugboat and workboat emission factors from the "2008 Inventory of Air Emissions" were incorporated (POLA 2009);
- Stone delivery ship emissions are only included for those emissions that occur within 3 nautical miles of the shoreline; and
- The construction schedule was revised so that construction is assumed to start in 2010 and be completed in 2012, and the administration building was deleted from the project.

The total project emissions, which incorporated all relevant CEQA mitigation measures, were summarized for each project phase and compared to the de minimis emission rates for general conformity. The project exceeded the de minimis emission rates for CO, VOC and NOx. Yearly emissions were calculated for these pollutants based on the project schedule provided to CDM by POLA.

Resulting Total Emissions Caused by the Federal Action

The totals of direct and indirect emissions caused by the Federal action are summarized in **Table 1** below. Total emissions for each pollutant caused by the Federal action are compared to the general conformity de minimis emission rates to determine if total Federal action emissions are significant. The total Federal action emissions for CO, VOC and NOx exceeded this threshold. **Table 2** shows emissions for these pollutants by project year based on the overall length of each project phase. Yearly emissions of CO and VOC do not exceed the de minimis emission rates. NOx emissions continue to exceed de minimis rates for general conformity in 2010, 2011, and 2012. **Table 3** presents the emissions sorted by the emission budget equipment categories found in the USEPA-approved SIP and the CARB-approved 2007 Air Quality Management Plan. Detailed emission calculations for each construction activity are provided in **Exhibits A.1 through A.7**.

Exhibits

Exhibit A.1: Federal Action Total Wharf Construction Emissions (Based on CEQA Mitigation)
Exhibit A.2: Federal Action Pipeline Construction Emissions (Based on CEQA Mitigation)
Exhibit A.3: Federal Action Site Construction Phase I Emissions (Based on CEQA Mitigation)
Exhibit A.4: Federal Action Site Construction Phase II Emissions (Based on CEQA Mitigation)
Exhibit A.5: Federal Action Vessel Construction Emissions
Exhibit A.6: Federal Action Stone Delivery Truck Construction Emissions
Exhibit A.7: Federal Action Emission Factors

CDM

Table 1: Federal Project Construction Total Criteria Pollutant Emissions with CEQA Mitigation (tons)

Construction Phase & Activity	VOC	CO	NOx	SOx	PM10	PM2.5
Wharf Construction						
Mobilization	0.14	0.51	1.37	0.0011	0.05	0.05
Demobilization	0.13	0.50	1.36	0.0011	0.05	0.05
Unloading Platform (2 EA. 40' x 40')	0.27	1.04	2.87	0.0022	0.12	0.11
Breasting Dolphin Platforms (2 EA. @ 40' x 40'; 2 EA. @ 30' x 30')	0.47	1.78	5.17	0.0040	0.21	0.20
Mooring Dolphin Platforms	0.79	3.02	8.03	0.0064	0.32	0.30
Trestle Abutments	0.04	0.11	0.16	0.0002	0.01	0.01
Main Trestle	0.19	0.74	1.82	0.0015	0.07	0.07
Single Lane Trestle to Breasting Dolphin	0.16	0.61	1.53	0.0013	0.06	0.06
Utility Boat Floating Dock & Gangway	0.07	0.25	0.77	0.0006	0.03	0.03
Wave Screen	0.17	0.65	1.91	0.0015	0.08	0.07
Emergency Spill Boom Platforms	0.18	0.73	1.72	0.0014	0.07	0.07
Terminal Backlands	10.4	10.6	18.0	-	4.8	1.4
Total Wharf Construction	**13.0**	**20.5**	**44.7**	**0.021**	**5.8**	**2.5**
Pipeline Construction						
42" - 36" - Terminal Island	2.19	9.32	17.33	0.0215	0.85	0.52
36" -HDD/Open Cut / Assist HDD - Wilmington	3.60	16.19	25.30	0.0327	1.76	0.92
24" - Valero	0.44	1.86	3.33	0.0041	0.29	0.13
Total Pipeline Construction	**6.2**	**27.4**	**46.0**	**0.058**	**2.9**	**1.6**
Construction Phase 1						
Site 1						
Soil Stabilization	1.03	5.35	9.46	0.0130	0.28	0.25
Construction	1.66	7.33	12.30	0.0154	0.39	0.35
Tanks (2-250,000 Bbl, 1-50,000 Bbl, 1-15,000Bbl)	0.68	2.37	4.82	0.0055	4.29	0.99
Site 2						
Soil Stabilization	1.44	6.88	12.06	0.0156	0.36	0.33
Construction	3.54	15.76	26.08	0.0327	0.82	0.75
Tanks (8-250,000 bbl)	2.22	7.79	15.95	0.0183	2.34	0.80
Total Construction Phase 1	**10.6**	**45.5**	**80.7**	**0.101**	**8.5**	**3.5**

Table 1: Federal Project Construction Total Criteria Pollutant Emissions with CEQA Mitigation (tons)

Construction Phase & Activity	VOC	CO	NOx	SOx	PM10	PM2.5
Construction Phase 2						
Construction	1.25	5.60	9.00	0.0111	0.30	0.27
Tanks (6-250,000 bbl)	0.84	2.89	6.22	0.0071	2.06	0.54
Total Construction Phase 2	**2.1**	**8.5**	**15.2**	**0.018**	**2.4**	**0.8**
Stone Delivery						
Vessels	0.00	0.13	1.58	0.0000	0.00	0.00
Haul Trucks	0.34	0.95	3.10	0.0045	0.12	0.10
Total Stone Delivery	**0.3**	**1.1**	**4.7**	**0.004**	**0.1**	**0.1**
Worker Trips[a]	NA	NA	NA	NA	NA	NA
TOTAL PROJECT POLLUTANT EMISSIONS (tons)[b]	**32.2**	**102.9**	**191.2**	**0.203**	**19.7**	**8.4**
General Conformity de minimis Threshold (tpy)[c]	**25**	**100**	**25**	**100** (as PM2.5)	**70**	**100**
Were the General Conformity de minimis thresholds exceeded?[d]	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**

a. Worker trips are covered under transportation conformity (40 CFR 93, Subpart A)
b. Emissions shown are for entire construction duration, not peak annual.
c. The de minimis rates are meant to be compared to peak annual emissions. If total project emissions exceed the de minimis emission rates, then annual emissions will be determined.
d. Federal action CO, VOC and NOx emissions exceeded the threshold; peak annual CO, VOC and NOx emissions are calculated (see Table 2)

Table 2: Federal Project Construction Emissions by Year

	2010			2011			2012		
Construction Phase	**CO**	**VOC**	**NOx**	**CO**	**VOC**	**NOx**	**CO**	**VOC**	**NOx**
Wharf Construction (mitigated)	5.59	1.48	15.67	4.36	1.12	11.04	-	-	-
Pipeline Construction	12.34	2.81	21.18	6.02	1.38	10.17	9.01	2.03	14.62
Construction Phase 1	20.89	4.67	36.81	25.55	6.54	44.97	6.47	1.65	11.65
Construction Phase 2	0.74	0.24	1.12	5.70	5.24	10.36	5.26	4.72	9.13
Stone Delivery	1.09	0.38	4.71	-	-	-	-	-	-
TOTAL PROJECT POLLUTANT EMISSIONS (tons)	**40.7**	**9.6**	**79.5**	**41.6**	**14.3**	**76.5**	**20.7**	**8.4**	**35.4**
General Conformity de minimis Threshold (tpy)	**100**	**25**	**25**	**100**	**25**	**25**	**100**	**25**	**25**
Were the General Conformity de minimis thresholds exceeded?	**No**	**No**	**Yes**	**No**	**No**	**Yes**	**No**	**No**	**Yes**

Table 3: Federal Project Construction NOx Emissions by Source Category in SIP or 2007 AQMP (tons/year)

Source Category	**2010**	**2011**	**2012**
Heavy-Duty Diesel Trucks (SIP) or Heavy-Heavy Duty Diesel Trucks (2007 AQMP)	6.70	0.68	0.42
Mobile Equipment (SIP) or Off-Road Equipment (2007 AQMP)	60.97	68.58	34.98
Commercial Boats (SIP) or Ships and Commercial Boats (2007 AQMP)	11.82	7.27	-
ANNUAL EMISSIONS (tpy)	**79.5**	**76.5**	**35.4**

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

									2010 Emission Factors					
						540								
						Duration			CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT		Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
MOBILIZATION							**15**							
	MOBILIZATION OF MARINE EQUIPMENT													
		Derrick Barge	800	1	0.43		15	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		15	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		15	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	2	0.45		15	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Heavy-Lift Derrick Barge	1,400	1	0.43		15	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		15	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		15	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		15	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		15	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Piledriving Hammer	1,100	1	0.62		15	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
		Air Compressor	112	1	0.48		15	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
	MOBILIZATION OF LANDSIDE EQUIPMENT													
		Crawler Crane	335	1	0.43		7	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
		Generator	23	1	0.74		7	8	2.5334	4.1795	0.2624	0.2414	0.0055	0.7353
		Air Compressor	56	1	0.48		7	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Welding Machine	48	1	0.45		7	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
DEMOBILIZATION							**15**							
	DEMOBILIZATION OF MARINE EQUIPMENT													
		Derrick Barge	800	1	0.43		15	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		15	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		15	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	2	0.45		15	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Heavy-Lift Derrick Barge	1,400	1	0.43		15	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		15	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		15	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		15	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		15	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Piledriving Hammer	1,100	1	0.62		15	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
		Air Compressor	112	1	0.48		15	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
	DEMOBILIZATION OF LANDSIDE EQUIPMENT													
		Crawler Crane	335	1	0.43		5	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
		Generator	23	1	0.74		5	8	2.5334	4.1795	0.2624	0.2414	0.0055	0.7353
		Air Compressor	56	1	0.48		5	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Welding Machine	48	1	0.45		5	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808

Exhibit A.1 - Proposed Project Wharf Construction Activities A Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
		25% Compliance with MM AQ-3											
MOBILIZATION		NOx, VOC, CO, PM - Offroad Equipment Only						0%	11%	47%	47%	0%	0%
MOBILIZATION OF MARINE EQUIPMENT													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.020	0.052	0.001	0.001	0.00005	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.057	0.163	0.006	0.005	0.00013	0.010
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.019	0.037	0.002	0.002	0.00002	0.005
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.032	0.028	0.002	0.002	0.00004	0.011
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.035	0.092	0.002	0.002	0.00008	0.009
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.062	0.262	0.013	0.012	0.00017	0.017
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.018	0.041	0.003	0.002	0.00003	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.057	0.163	0.006	0.005	0.00013	0.010
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.019	0.037	0.002	0.002	0.00002	0.005
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.146	0.419	0.011	0.010	0.00037	0.042
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.019	0.030	0.002	0.001	0.00003	0.005
MOBILIZATION OF LANDSIDE EQUIPMENT													
	Crawler Crane	0.4439	1.1874	0.0459	0.0422	0.0012	0.1220	0.012	0.030	0.001	0.001	0.00003	0.003
	Generator	0.0951	0.1568	0.0098	0.0091	0.0002	0.0259	0.003	0.004	0.000	0.000	0.00001	0.001
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.008	0.007	0.000	0.000	0.00001	0.003
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.007	0.006	0.000	0.000	0.00001	0.003
DEMOBILIZATION													
DEMOBILIZATION OF MARINE EQUIPMENT													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.020	0.052	0.001	0.001	0.00005	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.057	0.163	0.006	0.005	0.00013	0.010
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.019	0.037	0.002	0.002	0.00002	0.005
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.032	0.028	0.002	0.002	0.00004	0.011
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.035	0.092	0.002	0.002	0.00008	0.009
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.062	0.262	0.013	0.012	0.00017	0.017
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.018	0.041	0.003	0.002	0.00003	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.057	0.163	0.006	0.005	0.00013	0.010
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.019	0.037	0.002	0.002	0.00002	0.005
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.146	0.419	0.011	0.010	0.00037	0.042
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.019	0.030	0.002	0.001	0.00003	0.005
DEMOBILIZATION OF LANDSIDE EQUIPMENT													
	Crawler Crane	0.4439	1.1874	0.0459	0.0422	0.0012	0.1220	0.009	0.021	0.000	0.000	0.00002	0.002
	Generator	0.0951	0.1568	0.0098	0.0091	0.0002	0.0259	0.002	0.003	0.000	0.000	0.00000	0.001
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.006	0.005	0.000	0.000	0.00001	0.002
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.005	0.005	0.000	0.000	0.00001	0.002

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

						540		2010 Emission Factors					
						Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
UNLOADING PLATFORM (2 EA. 40' x 40')						**60**							
DELIVER STEEL JACKET, DECK FRAME AND PILES													
Primary engine	Tugboat	4,000	1	0.68		1	24	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	400	1	0.43		1	24	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
DELIVER LOADING ARMS													
Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
SET TEMPLATE FOR PILE INSTALLATION													
	Heavy-Lift Derrick Barge	1,400	1	0.43		2	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		2	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		2	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		2	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		2	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		2	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
STAB & DRIVE CENTER JACKET PILE													
	Heavy-Lift Derrick Barge	1,400	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Piledriving Hammer	1,100	1	0.62		1	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
	Air Compressor	112	1	0.48		1	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
SET STEEL JACKET ASSEMBLIES ONTO CENTER PILE													
	Heavy-Lift Derrick Barge	1,400	1	0.43		2	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		2	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		2	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		2	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		2	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		2	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
DRIVE STEEL PILES													
	Heavy-Lift Derrick Barge	1,400	1	0.43		8	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		8	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		8	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		8	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		8	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Piledriving Hammer	1,100	1	0.62		8	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
	Air Compressor	112	2	0.48		8	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
WELD STEEL JACKET TO PILES													
	Heavy-Lift Derrick Barge	1,400	1	0.43		3	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		3	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		3	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		3	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		3	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		3	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
GROUT MAIN PLATFORM LEGS													
	Derrick Barge	800	1	0.43		6	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Truck (Highway)	210	1		15	6	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	Grout Mixer/Pump	35	1	0.53		6	8	3.9096	6.4498	0.4543	0.4180	0.0085	1.5019
Primary engine	Workboat/Crewboat	400	1	0.45		6	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		6	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420

Exhibit A.1 - Proposed Project Wharf Construction Activities A									Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.					
			CO	NOx	PM10	PM2.5	SOx	VOC						
PROJECT		Equipment Category	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
UNLOADING PLATFORM (2 EA. 40' x 40')														
	DELIVER STEEL JACKET, DECK FRAME AND PILES													
	Primary engine	Tugboat	12.1114	51.1375	2.5232	2.4122	0.0327	3.2766	0.145	0.614	0.030	0.029	0.00039	0.039
	Auxiliary engine	Tugboat	1.2272	2.7441	0.1698	0.1379	0.0021	0.3247	0.015	0.033	0.002	0.002	0.00002	0.004
	DELIVER LOADING ARMS													
	Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
	Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001
	SET TEMPLATE FOR PILE INSTALLATION													
		Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.005	0.012	0.000	0.000	0.00001	0.001
	Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.008	0.035	0.002	0.002	0.00002	0.002
	Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.002	0.005	0.000	0.000	0.00000	0.001
	Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.008	0.022	0.001	0.001	0.00002	0.001
	Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.003	0.005	0.000	0.000	0.00000	0.001
		Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.004	0.004	0.000	0.000	0.00001	0.002
	STAB & DRIVE CENTER JACKET PILE													
		Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.002	0.006	0.000	0.000	0.00001	0.001
	Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.004	0.017	0.001	0.001	0.00001	0.001
	Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.001	0.003	0.000	0.000	0.00000	0.000
	Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
	Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
		Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.010	0.028	0.001	0.001	0.00002	0.003
		Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.001	0.002	0.000	0.000	0.00000	0.000
	SET STEEL JACKET ASSEMBLIES ONTO CENTER PILE													
		Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.005	0.012	0.000	0.000	0.00001	0.001
	Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.008	0.035	0.002	0.002	0.00002	0.002
	Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.002	0.005	0.000	0.000	0.00000	0.001
	Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.008	0.022	0.001	0.001	0.00002	0.001
	Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.003	0.005	0.000	0.000	0.00000	0.001
		Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.004	0.004	0.000	0.000	0.00001	0.002
	DRIVE STEEL PILES													
		Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.019	0.049	0.001	0.001	0.00004	0.005
	Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.033	0.140	0.007	0.007	0.00009	0.009
	Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.010	0.022	0.001	0.001	0.00002	0.003
	Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.030	0.087	0.003	0.003	0.00007	0.005
	Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.010	0.020	0.001	0.001	0.00001	0.003
		Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.078	0.223	0.006	0.005	0.00020	0.022
		Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.020	0.033	0.002	0.002	0.00003	0.006
	WELD STEEL JACKET TO PILES													
		Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.007	0.018	0.000	0.000	0.00002	0.002
	Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.012	0.052	0.003	0.002	0.00003	0.003
	Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.004	0.008	0.001	0.000	0.00001	0.001
	Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.011	0.033	0.001	0.001	0.00003	0.002
	Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.004	0.007	0.000	0.000	0.00000	0.001
		Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.006	0.006	0.000	0.000	0.00001	0.002
	GROUT MAIN PLATFORM LEGS													
		Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.008	0.021	0.000	0.000	0.00002	0.002
		Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.002	0.000	0.000	0.00000	0.000
		Grout Mixer/Pump	0.1599	0.2494	0.0185	0.0171	0.0003	0.0518	0.004	0.005	0.000	0.000	0.00001	0.001
	Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.023	0.065	0.002	0.002	0.00005	0.004
	Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.008	0.015	0.001	0.001	0.00001	0.002

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

						540		2010 Emission Factors					
						Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
SET STEEL DECK FRAMING STRUCTURES													
	Heavy-Lift Derrick Barge	1,400	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
WELD STEEL DECK FRAMING STRUCTURES													
	Derrick Barge	800	1	0.43		3	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		3	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		3	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	4	0.45		3	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
PAINT SPLICES													
	Air Compressor	56	1	0.48		3	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
FORM & POUR CONCRETE PADS													
	Derrick Barge	800	1	0.43		11	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		11	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		11	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		11	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		11	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Concrete Pump	80	1	0.53		1	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
	Concrete Trucks	285	3		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
INSTALL HANDRAIL													
	Welding Machine	48	2	0.45		6	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		6	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
SET LOADING ARMS													
	Derrick Barge	800	1	0.43		31	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		31	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		31	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Air Compressor	56	1	0.48		31	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
INSTALL GANGWAY TOWER & CRANE													
	Heavy-Lift Derrick Barge	1,400	1	0.43		2	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		2	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		2	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		2	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		2	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		2	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		2	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
INSTALL CATHODIC PROTECTION SYSTEM													
	Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		1	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		1	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
INSTALL MARINE FENDERS													
	Derrick Barge	800	1	0.43		6	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		6	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		6	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		6	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		6	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989

Exhibit A.1 - Proposed Project Wharf Construction Activities A **Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.**

		CO	NOx	PM10	PM2.5	SOx	VOC						
PROJECT	Equipment Category	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
SET STEEL DECK FRAMING STRUCTURES													
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.002	0.006	0.000	0.000	0.00001	0.001
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.004	0.017	0.001	0.001	0.00001	0.001
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
WELD STEEL DECK FRAMING STRUCTURES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.004	0.010	0.000	0.000	0.00001	0.001
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.011	0.033	0.001	0.001	0.00003	0.002
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.004	0.007	0.000	0.000	0.00000	0.001
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.013	0.011	0.001	0.001	0.00002	0.005
PAINT SPLICES													
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.004	0.003	0.000	0.000	0.00000	0.001
FORM & POUR CONCRETE PADS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.015	0.038	0.001	0.001	0.00003	0.004
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.041	0.120	0.004	0.004	0.00010	0.007
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.014	0.027	0.002	0.002	0.00002	0.004
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.012	0.010	0.001	0.001	0.00001	0.004
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.013	0.011	0.001	0.001	0.00001	0.005
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.002	0.002	0.000	0.000	0.00000	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.000	0.001	0.000	0.000	0.00000	0.000
INSTALL HANDRAIL													
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.013	0.011	0.001	0.001	0.00002	0.005
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.007	0.006	0.000	0.000	0.00001	0.003
SET LOADING ARMS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.041	0.108	0.002	0.002	0.00010	0.011
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.117	0.337	0.012	0.011	0.00027	0.021
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.040	0.076	0.005	0.005	0.00005	0.011
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.037	0.030	0.002	0.002	0.00004	0.013
INSTALL GANGWAY TOWER & CRANE													
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.005	0.012	0.000	0.000	0.00001	0.001
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.008	0.035	0.002	0.002	0.00002	0.002
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.002	0.005	0.000	0.000	0.00000	0.001
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.008	0.022	0.001	0.001	0.00002	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.003	0.005	0.000	0.000	0.00000	0.001
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.002	0.002	0.000	0.000	0.00000	0.001
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.002	0.002	0.000	0.000	0.00000	0.001
INSTALL CATHODIC PROTECTION SYSTEM													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.001	0.001	0.000	0.000	0.00000	0.000
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.001	0.001	0.000	0.000	0.00000	0.000
INSTALL MARINE FENDERS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.008	0.023	0.001	0.001	0.00002	0.002
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.023	0.065	0.002	0.002	0.00005	0.004
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.008	0.015	0.001	0.001	0.00001	0.002
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.006	0.006	0.000	0.000	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.007	0.006	0.000	0.000	0.00001	0.003

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

						540		2010 Emission Factors					
						Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
BREASTING DOLPHIN PLATFORMS (2 EA. @ 40' x 40'; 2 EA. @ 30' x 30')						**120**							
DELIVER STEEL JACKETS, DECK FRAMES AND PILES													
Primary engine	Tugboat	4,000	1	0.68		1	24	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	400	1	0.43		1	24	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
DELIVER CATWALKS													
	Truck (Highway)	400	4		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
SET TEMPLATE FOR PILE INSTALLATION													
	Heavy-Lift Derrick Barge	1,400	1	0.43		25	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		25	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		25	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		25	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		25	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		25	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
SET STEEL JACKET ASSEMBLIES ONTO CENTER PILE													
	Heavy-Lift Derrick Barge	1,400	1	0.43		4	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		4	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		4	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		4	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		4	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		4	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
DRIVE STEEL PILES													
	Heavy-Lift Derrick Barge	1,400	1	0.43		30	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		30	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		30	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		30	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		30	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Piledriving Hammer	1,100	1	0.62		30	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
	Air Compressor	112	1	0.48		30	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
WELD STEEL JACKET TO PILES													
	Heavy-Lift Derrick Barge	1,400	1	0.43		8	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		8	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		8	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		8	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		8	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		8	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
PAINT SPLICES													
	Air Compressor	56	1	0.48		6	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
FORM & POUR CONCRETE PADS													
	Derrick Barge	800	1	0.43		15	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		15	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		15	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		15	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		15	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Concrete Pump	80	1	0.53		2	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
	Concrete Trucks	285	3		15	2	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796

Exhibit A.1 - Proposed Project Wharf Construction Activities A Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
BREASTING DOLPHIN PLATFORMS (2 EA. @ 40' x 40'; 2 EA. @ 30' x 30')													
DELIVER STEEL JACKETS, DECK FRAMES AND PILES													
Primary engine	Tugboat	12.1114	51.1375	2.5232	2.4122	0.0327	3.2766	0.145	0.614	0.030	0.029	0.00039	0.039
Auxiliary engine	Tugboat	1.2272	2.7441	0.1698	0.1379	0.0021	0.3247	0.015	0.033	0.002	0.002	0.00002	0.004
DELIVER CATWALKS													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.000	0.001	0.000	0.000	0.00000	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001
SET TEMPLATE FOR PILE INSTALLATION													
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.058	0.153	0.003	0.003	0.00014	0.015
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.104	0.437	0.022	0.021	0.00028	0.028
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.031	0.069	0.004	0.003	0.00005	0.008
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.094	0.272	0.010	0.009	0.00022	0.017
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.032	0.061	0.004	0.004	0.00004	0.009
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.053	0.046	0.003	0.003	0.00006	0.019
SET STEEL JACKET ASSEMBLIES ONTO CENTER PILE													
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.009	0.024	0.000	0.000	0.00002	0.002
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.017	0.070	0.003	0.003	0.00004	0.004
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.005	0.011	0.001	0.001	0.00001	0.001
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.015	0.043	0.002	0.001	0.00003	0.003
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.005	0.010	0.001	0.001	0.00001	0.001
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.009	0.007	0.000	0.000	0.00001	0.003
DRIVE STEEL PILES													
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.069	0.183	0.003	0.003	0.00016	0.018
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.124	0.525	0.026	0.025	0.00034	0.034
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.037	0.082	0.005	0.004	0.00006	0.010
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.113	0.326	0.012	0.011	0.00026	0.020
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.038	0.074	0.005	0.005	0.00005	0.010
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.291	0.837	0.022	0.020	0.00074	0.084
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.038	0.061	0.003	0.003	0.00006	0.011
WELD STEEL JACKET TO PILES													
	Heavy-Lift Derrick Barge	0.5785	1.7065	0.0531	0.0489	0.0014	0.1525	0.019	0.049	0.001	0.001	0.00004	0.005
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.033	0.140	0.007	0.007	0.00009	0.009
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.010	0.022	0.001	0.001	0.00002	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.030	0.087	0.003	0.003	0.00007	0.005
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.010	0.020	0.001	0.001	0.00001	0.003
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.009	0.007	0.000	0.000	0.00001	0.003
PAINT SPLICES													
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.007	0.006	0.000	0.000	0.00001	0.003
FORM & POUR CONCRETE PADS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.020	0.052	0.001	0.001	0.00005	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.057	0.163	0.006	0.005	0.00013	0.010
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.019	0.037	0.002	0.002	0.00002	0.005
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.016	0.014	0.001	0.001	0.00002	0.006
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.018	0.014	0.001	0.001	0.00002	0.006
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.004	0.004	0.000	0.000	0.00001	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.002	0.000	0.000	0.00000	0.000

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

									2010 Emission Factors					
						540								
						Duration			CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day		g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
INSTALL HANDRAIL														
	Welding Machine	48	2	0.45		5	8		6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		5	8		5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
INSTALL 175-TON QUICK RELEASE MOORING HOOKS														
	Derrick Barge	800	1	0.43		4	8		0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		4	8		2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		4	8		3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		4	8		2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		4	8		4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		4	8		6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		4	8		5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
INSTALL CATHODIC PROTECTION SYSTEM														
	Derrick Barge	800	1	0.43		1	8		0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		1	8		2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		1	8		3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		1	8		2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8		4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		1	8		6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		1	8		5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
INSTALL MARINE FENDERS														
	Derrick Barge	800	1	0.43		6	8		0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		6	8		2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		6	8		3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		6	8		2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		6	8		4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		6	8		6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		6	8		5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
SET CATWALK SECTIONS														
	Derrick Barge	800	1	0.43		2	8		0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		2	8		2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		2	8		3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		2	8		2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		2	8		4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		2	8		6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		2	8		5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
MOORING DOLPHIN PLATFORMS						**94**								
DELIVER STEEL DECK FRAMING STRUCTURES AND PILES														
Primary engine	Tugboat	4,000	1	0.68		1	24		2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	400	1	0.43		1	24		3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
SET TEMPLATE FOR PILE INSTALLATION														
	Derrick Barge	800	1	0.43		13	8		0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		13	8		2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		13	8		4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		13	8		6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		13	8		5.3168	4.5087	0.5002	0.4602	0.0054	2.1989

Exhibit A.1 - Proposed Project Wharf Construction Activities A **Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.**

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
INSTALL HANDRAIL													
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.011	0.009	0.001	0.001	0.00001	0.004
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.006	0.005	0.000	0.000	0.00001	0.002
INSTALL 175-TON QUICK RELEASE MOORING HOOKS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.005	0.014	0.000	0.000	0.00001	0.001
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.017	0.070	0.003	0.003	0.00004	0.004
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.005	0.011	0.001	0.001	0.00001	0.001
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.015	0.043	0.002	0.001	0.00003	0.003
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.005	0.010	0.001	0.001	0.00001	0.001
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.004	0.004	0.000	0.000	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.005	0.004	0.000	0.000	0.00001	0.002
INSTALL CATHODIC PROTECTION SYSTEM													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.004	0.017	0.001	0.001	0.00001	0.001
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.001	0.001	0.000	0.000	0.00000	0.000
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.001	0.001	0.000	0.000	0.00000	0.000
INSTALL MARINE FENDERS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.008	0.021	0.000	0.000	0.00002	0.002
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.025	0.105	0.005	0.005	0.00007	0.007
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.007	0.016	0.001	0.001	0.00001	0.002
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.023	0.065	0.002	0.002	0.00005	0.004
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.008	0.015	0.001	0.001	0.00001	0.002
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.006	0.006	0.000	0.000	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.007	0.006	0.000	0.000	0.00001	0.003
SET CATWALK SECTIONS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.003	0.007	0.000	0.000	0.00001	0.001
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.008	0.035	0.002	0.002	0.00002	0.002
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.002	0.005	0.000	0.000	0.00000	0.001
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.008	0.022	0.001	0.001	0.00002	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.003	0.005	0.000	0.000	0.00000	0.001
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.002	0.002	0.000	0.000	0.00000	0.001
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.002	0.002	0.000	0.000	0.00000	0.001
MOORING DOLPHIN PLATFORMS													
DELIVER STEEL DECK FRAMING STRUCTURES AND PILES													
Primary engine	Tugboat	12.1114	51.1375	2.5232	2.4122	0.0327	3.2766	0.145	0.614	0.030	0.029	0.00039	0.039
Auxiliary engine	Tugboat	1.2272	2.7441	0.1698	0.1379	0.0021	0.3247	0.015	0.033	0.002	0.002	0.00002	0.004
SET TEMPLATE FOR PILE INSTALLATION													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.017	0.045	0.001	0.001	0.00004	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.049	0.141	0.005	0.005	0.00011	0.009
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.017	0.032	0.002	0.002	0.00002	0.005
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.028	0.024	0.001	0.001	0.00003	0.010
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.015	0.012	0.001	0.001	0.00002	0.006

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

									2010 Emission Factors					
							540							
							Duration		CO	NOx	PM10	PM2.5	SOx	VOC
	PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
	DRIVE STEEL PILES													
		Derrick Barge	800	1	0.43		50	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		50	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		50	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		50	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		50	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Piledriving Hammer	1,100	1	0.62		50	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
		Air Compressor	112	1	0.48		50	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
	WELD STEEL DECK FRAMING STRUCTURE													
		Derrick Barge	800	1	0.43		19	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		19	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		19	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		19	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		19	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	4	0.45		19	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		19	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	PAINT SPLICES													
		Air Compressor	56	1	0.48		7	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	FORM & POUR CONCRETE CAPS													
		Derrick Barge	800	1	0.43		94	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		94	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		94	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		94	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		94	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Concrete Pump	80	1	0.53		6	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
		Concrete Trucks	285	3		15	6	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	INSTALL HANDRAIL													
		Welding Machine	48	2	0.45		8	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		8	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	INSTALL 175-TON QUICK RELEASE MOORING HOOKS													
		Derrick Barge	800	1	0.43		6	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		6	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		6	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		6	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		6	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		6	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		6	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	INSTALL CATHODIC PROTECTION SYSTEM													
		Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		1	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		1	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	DELIVER CATWALK SECTIONS													
		Truck (Highway)	400	6		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
		Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
	Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562

Exhibit A.1 - Proposed Project Wharf Construction Activities A Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
DRIVE STEEL PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.066	0.175	0.003	0.003	0.00016	0.017
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.207	0.874	0.043	0.041	0.00056	0.056
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.061	0.137	0.008	0.007	0.00010	0.016
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.188	0.543	0.020	0.018	0.00043	0.034
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.064	0.123	0.008	0.008	0.00008	0.017
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.485	1.395	0.037	0.034	0.00124	0.140
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.063	0.102	0.005	0.005	0.00010	0.018
WELD STEEL DECK FRAMING STRUCTURE													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.025	0.066	0.001	0.001	0.00006	0.007
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.079	0.332	0.016	0.016	0.00021	0.021
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.023	0.052	0.003	0.003	0.00004	0.006
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.072	0.206	0.007	0.007	0.00016	0.013
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.024	0.047	0.003	0.003	0.00003	0.007
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.081	0.070	0.004	0.004	0.00010	0.029
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.023	0.018	0.001	0.001	0.00002	0.008
PAINT SPLICES													
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.008	0.007	0.000	0.000	0.00001	0.003
FORM & POUR CONCRETE CAPS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.124	0.328	0.006	0.006	0.00029	0.033
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.354	1.021	0.037	0.034	0.00081	0.064
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.120	0.231	0.014	0.014	0.00016	0.033
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.100	0.086	0.005	0.005	0.00012	0.036
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.112	0.090	0.006	0.005	0.00012	0.040
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.012	0.011	0.001	0.001	0.00002	0.004
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.002	0.005	0.000	0.000	0.00001	0.000
INSTALL HANDRAIL													
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.017	0.015	0.001	0.001	0.00002	0.006
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.010	0.008	0.000	0.000	0.00001	0.003
INSTALL 175-TON QUICK RELEASE MOORING HOOKS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.008	0.021	0.000	0.000	0.00002	0.002
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.025	0.105	0.005	0.005	0.00007	0.007
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.007	0.016	0.001	0.001	0.00001	0.002
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.023	0.065	0.002	0.002	0.00005	0.004
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.008	0.015	0.001	0.001	0.00001	0.002
	Welding Machine	0.2666	0.2615	0.0260	0.0240	0.0003	0.0953	0.006	0.006	0.000	0.000	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.007	0.006	0.000	0.000	0.00001	0.003
INSTALL CATHODIC PROTECTION SYSTEM													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.004	0.017	0.001	0.001	0.00001	0.001
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.001	0.001	0.000	0.000	0.00000	0.000
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.001	0.001	0.000	0.000	0.00000	0.000
DELIVER CATWALK SECTIONS													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.002	0.000	0.000	0.00000	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

						540		2010 Emission Factors					
						Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
DRIVE STEEL CATWALK PILES													
	Derrick Barge	800	1	0.43		7	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		7	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		7	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		7	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		7	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Piledriving Hammer	1,100	1	0.62		7	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
	Air Compressor	112	1	0.48		7	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
SET & WELD STEEL CAP STRUCTURE													
	Derrick Barge	800	1	0.43		2	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		2	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		2	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		2	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		2	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	2	0.45		2	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	112	1	0.48		2	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
SET CATWALK SECTIONS													
	Derrick Barge	800	1	0.43		5	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		5	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		5	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat	400	1	0.45		5	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat	80	1	0.43		5	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
Primary engine	Crewboat	400	1	0.45		5	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Crewboat	80	1	0.43		5	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Air Compressor	56	2	0.48		5	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Welding Machine	48	1	0.45		5	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
TRESTLE ABUTMENTS						**29**							
DELIVER STEEL PILES													
	Truck (Highway)	400	3		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	Crawler Crane	335	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
EXCAVATE ROCK/GRADE AT TOP OF SLOPE													
	Excavators	168	1	0.58		2	8	2.9946	4.9797	0.2962	0.2725	0.0056	0.6547
	Rubber Tired Loaders	233	1	0.54		2	8	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018
DRIVE PILES													
	Crawler Crane	335	1	0.43		9	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
	Generator	23	1	0.74		9	8	2.5334	4.1795	0.2624	0.2414	0.0055	0.7353
	Air Compressor	56	1	0.48		9	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Welding Machine	48	1	0.45		9	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
FORM & POUR ABUTMENT SECTION/APPROACH SLAB													
	Crawler Crane	335	1	0.43		7	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
	Truck (Highway)	210	1		15	15	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	Generator	23	1	0.74		15	8	2.5334	4.1795	0.2624	0.2414	0.0055	0.7353
	Air Compressor	56	1	0.48		15	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Welding Machine	48	1	0.45		15	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Concrete Pump	80	1	0.53		2	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
	Concrete Trucks	285	3		15	2	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
INSTALL HANDRAIL													
	Welding Machine	48	2	0.45		2	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		2	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989

Exhibit A.1 - Proposed Project Wharf Construction Activities A **Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.**

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
DRIVE STEEL CATWALK PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.009	0.024	0.000	0.000	0.00002	0.002
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.029	0.122	0.006	0.006	0.00008	0.008
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.009	0.019	0.001	0.001	0.00001	0.002
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.026	0.076	0.003	0.003	0.00006	0.005
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.009	0.017	0.001	0.001	0.00001	0.002
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.068	0.195	0.005	0.005	0.00017	0.020
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.009	0.014	0.001	0.001	0.00001	0.002
SET & WELD STEEL CAP STRUCTURE													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.003	0.007	0.000	0.000	0.00001	0.001
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.008	0.035	0.002	0.002	0.00002	0.002
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.002	0.005	0.000	0.000	0.00000	0.001
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.008	0.022	0.001	0.001	0.00002	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.003	0.005	0.000	0.000	0.00000	0.001
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.004	0.004	0.000	0.000	0.00001	0.002
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.003	0.004	0.000	0.000	0.00000	0.001
SET CATWALK SECTIONS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.007	0.017	0.000	0.000	0.00002	0.002
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.021	0.087	0.004	0.004	0.00006	0.006
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.006	0.014	0.001	0.001	0.00001	0.002
Primary engine	Workboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.019	0.054	0.002	0.002	0.00004	0.003
Auxiliary engine	Workboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.006	0.012	0.001	0.001	0.00001	0.002
Primary engine	Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.019	0.054	0.002	0.002	0.00004	0.003
Auxiliary engine	Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.006	0.012	0.001	0.001	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.012	0.010	0.001	0.001	0.00001	0.004
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.005	0.005	0.000	0.000	0.00001	0.002
TRESTLE ABUTMENTS													
DELIVER STEEL PILES													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.000	0.001	0.000	0.000	0.00000	0.000
	Crawler Crane	0.4439	1.1874	0.0459	0.0422	0.0012	0.1220	0.002	0.004	0.000	0.000	0.00000	0.000
EXCAVATE ROCK/GRADE AT TOP OF SLOPE													
	Excavators	0.6433	1.0730	0.0719	0.0661	0.0012	0.1356	0.005	0.008	0.000	0.000	0.00001	0.001
	Rubber Tired Loaders	0.3923	1.4230	0.0706	0.0649	0.0016	0.1432	0.003	0.010	0.000	0.000	0.00001	0.001
DRIVE PILES													
	Crawler Crane	0.4439	1.1874	0.0459	0.0422	0.0012	0.1220	0.016	0.038	0.001	0.001	0.00004	0.004
	Generator	0.0951	0.1568	0.0098	0.0091	0.0002	0.0259	0.003	0.005	0.000	0.000	0.00001	0.001
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.011	0.009	0.001	0.001	0.00001	0.004
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.010	0.008	0.000	0.000	0.00001	0.003
FORM & POUR ABUTMENT SECTION/APPROACH SLAB													
	Crawler Crane	0.4439	1.1874	0.0459	0.0422	0.0012	0.1220	0.012	0.030	0.001	0.001	0.00003	0.003
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.004	0.000	0.000	0.00000	0.000
	Generator	0.0951	0.1568	0.0098	0.0091	0.0002	0.0259	0.006	0.008	0.000	0.000	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.018	0.014	0.001	0.001	0.00002	0.006
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.016	0.014	0.001	0.001	0.00002	0.006
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.004	0.004	0.000	0.000	0.00001	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.002	0.000	0.000	0.00000	0.000
INSTALL HANDRAIL													
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.004	0.004	0.000	0.000	0.00001	0.002
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.002	0.002	0.000	0.000	0.00000	0.001

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

							540		2010 Emission Factors					
							Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT		Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
MAIN TRESTLE							**30**							
	DELIVER STEEL PILES AND BULB-TEE SECTIONS													
		Truck (Highway)	400	21		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
		Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
	Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	DRIVE STEEL PILES													
		Derrick Barge	800	1	0.43		9	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		9	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		9	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		9	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		9	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Piledriving Hammer	1,100	1	0.62		9	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
		Air Compressor	112	1	0.48		9	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
	FORM & POUR CONCRETE CAPS													
		Derrick Barge	800	1	0.43		15	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		15	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		15	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		15	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		15	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Concrete Pump	80	1	0.53		1	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
		Concrete Trucks	285	3		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	SET BULB-TEE GIRDERS													
		Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	FORM & POUR CONCRETE ROADWAY													
		Derrick Barge	800	1	0.43		34	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		34	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		34	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		34	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		34	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Concrete Pump	80	1	0.53		3	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
		Concrete Trucks	285	3		15	3	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	INSTALL GUARDRAIL													
		Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Air Compressor	56	1	0.48		1	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	INSTALL PIPING SUPPORTS													
		Derrick Barge	800	1	0.43		9	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		9	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		9	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Air Compressor	56	1	0.48		9	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989

Exhibit A.1 - Proposed Project Wharf Construction Activities A Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
MAIN TRESTLE													
DELIVER STEEL PILES AND BULB-TEE SECTIONS													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.002	0.006	0.000	0.000	0.00001	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001
DRIVE STEEL PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.012	0.031	0.001	0.001	0.00003	0.003
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.037	0.157	0.008	0.007	0.00010	0.010
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.011	0.025	0.002	0.001	0.00002	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.034	0.098	0.004	0.003	0.00008	0.006
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.012	0.022	0.001	0.001	0.00001	0.003
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.087	0.251	0.007	0.006	0.00022	0.025
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.011	0.018	0.001	0.001	0.00002	0.003
FORM & POUR CONCRETE CAPS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.020	0.052	0.001	0.001	0.00005	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.057	0.163	0.006	0.005	0.00013	0.010
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.019	0.037	0.002	0.002	0.00002	0.005
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.016	0.014	0.001	0.001	0.00002	0.006
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.018	0.014	0.001	0.001	0.00002	0.006
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.002	0.002	0.000	0.000	0.00000	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.000	0.001	0.000	0.000	0.00000	0.000
SET BULB-TEE GIRDERS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
FORM & POUR CONCRETE ROADWAY													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.045	0.119	0.002	0.002	0.00011	0.012
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.128	0.369	0.013	0.012	0.00029	0.023
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.043	0.083	0.005	0.005	0.00006	0.012
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.036	0.031	0.002	0.002	0.00004	0.013
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.040	0.033	0.002	0.002	0.00004	0.014
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.006	0.006	0.000	0.000	0.00001	0.002
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.003	0.000	0.000	0.00000	0.000
INSTALL GUARDRAIL													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.001	0.001	0.000	0.000	0.00000	0.000
INSTALL PIPING SUPPORTS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.012	0.031	0.001	0.001	0.00003	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.034	0.098	0.004	0.003	0.00008	0.006
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.012	0.022	0.001	0.001	0.00001	0.003
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.011	0.009	0.001	0.001	0.00001	0.004

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

							540		2010 Emission Factors					
							Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT		Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
SINGLE LANE TRESTLE TO BREASTING DOLPHIN							**100**							
	DELIVER STEEL PILES AND BULB-TEE SECTIONS													
		Truck (Highway)	400	17		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
		Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
	Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	DRIVE STEEL PILES													
		Derrick Barge	800	1	0.43		9	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Work Tug	750	1	0.31		9	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Work Tug	100	1	0.43		9	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
	Primary engine	Workboat/Crewboat	400	1	0.45		9	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		9	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Piledriving Hammer	1,100	1	0.62		9	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
		Air Compressor	112	1	0.48		9	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
	FORM & POUR CONCRETE CAPS													
		Derrick Barge	800	1	0.43		8	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		8	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		8	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		8	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		8	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Concrete Pump	80	1	0.53		1	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
		Concrete Trucks	285	3		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	SET BULB-TEE GIRDERS													
		Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	FORM & POUR CONCRETE ROADWAY													
		Derrick Barge	800	1	0.43		34	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		34	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		34	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Welding Machine	48	1	0.45		34	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
		Air Compressor	56	1	0.48		34	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
		Concrete Pump	80	1	0.53		3	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
		Concrete Trucks	285	3		15	3	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	INSTALL GUARDRAIL													
		Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
	Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
	Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
		Air Compressor	56	1	0.48		1	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	UTILITY BOAT FLOATING DOCK & GANGWAY													
	DELIVER PC/PS PILES, FLOATS AND GANGWAY													
		Truck (Highway)	400	10		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
		Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
	Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
	Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562

Exhibit A.1 - Proposed Project Wharf Construction Activities A Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

PROJECT	Equipment Category	CO	NOx	PM10	PM2.5	SOx	VOC	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
		lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)						
SINGLE LANE TRESTLE TO BREASTING DOLPHIN													
DELIVER STEEL PILES AND BULB-TEE SECTIONS													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.002	0.005	0.000	0.000	0.00001	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001
DRIVE STEEL PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.012	0.031	0.001	0.001	0.00003	0.003
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.037	0.157	0.008	0.007	0.00010	0.010
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.011	0.025	0.002	0.001	0.00002	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.034	0.098	0.004	0.003	0.00008	0.006
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.012	0.022	0.001	0.001	0.00001	0.003
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.087	0.251	0.007	0.006	0.00022	0.025
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.011	0.018	0.001	0.001	0.00002	0.003
FORM & POUR CONCRETE CAPS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.011	0.028	0.001	0.000	0.00002	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.030	0.087	0.003	0.003	0.00007	0.005
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.010	0.020	0.001	0.001	0.00001	0.003
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.009	0.007	0.000	0.000	0.00001	0.003
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.010	0.008	0.000	0.000	0.00001	0.003
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.002	0.002	0.000	0.000	0.00000	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.000	0.001	0.000	0.000	0.00000	0.000
SET BULB-TEE GIRDERS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
FORM & POUR CONCRETE ROADWAY													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.045	0.119	0.002	0.002	0.00011	0.012
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.128	0.369	0.013	0.012	0.00029	0.023
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.043	0.083	0.005	0.005	0.00006	0.012
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.036	0.031	0.002	0.002	0.00004	0.013
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.040	0.033	0.002	0.002	0.00004	0.014
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.006	0.006	0.000	0.000	0.00001	0.002
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.003	0.000	0.000	0.00000	0.000
INSTALL GUARDRAIL													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.001	0.001	0.000	0.000	0.00000	0.000
UTILITY BOAT FLOATING DOCK & GANGWAY													
DELIVER PC/PS PILES, FLOATS AND GANGWAY													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.003	0.000	0.000	0.00000	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

						540		2010 Emission Factors					
						Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
DRIVE PC/PS CONCRETE PILES													
	Derrick Barge	800	1	0.43		9	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		9	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		9	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		9	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		9	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Piledriving Hammer	1,100	1	0.62		9	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
	Air Compressor	112	1	0.48		9	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
INSTALL CONCRETE FLOATS													
	Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Air Compressor	112	1	0.48		1	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
INSTALL GANGWAY													
	Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Air Compressor	112	1	0.48		1	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
WAVE SCREEN													
DELIVER STEEL PILES AND PC/PS CONCRETE PANELS													
	Truck (Highway)	400	11		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
DRIVE STEEL PILES													
	Derrick Barge	800	1	0.43		19	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		19	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		19	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		19	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		19	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Piledriving Hammer	1,100	1	0.62		19	8	1.6141	5.2331	0.1618	0.1488	0.0041	0.4663
	Air Compressor	112	1	0.48		19	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
INSTALL PC/PS CONCRETE PANELS													
	Derrick Barge	800	1	0.43		14	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		14	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		14	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		14	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		14	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		14	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		14	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989

Exhibit A.1 - Proposed Project Wharf Construction Activities A **Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.**

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
DRIVE PC/PS CONCRETE PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.012	0.031	0.001	0.001	0.00003	0.003
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.037	0.157	0.008	0.007	0.00010	0.010
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.011	0.025	0.002	0.001	0.00002	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.034	0.098	0.004	0.003	0.00008	0.006
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.012	0.022	0.001	0.001	0.00001	0.003
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.087	0.251	0.007	0.006	0.00022	0.025
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.011	0.018	0.001	0.001	0.00002	0.003
INSTALL CONCRETE FLOATS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.004	0.017	0.001	0.001	0.00001	0.001
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.001	0.002	0.000	0.000	0.00000	0.000
INSTALL GANGWAY													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.004	0.017	0.001	0.001	0.00001	0.001
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.001	0.002	0.000	0.000	0.00000	0.000
WAVE SCREEN													
DELIVER STEEL PILES AND PC/PS CONCRETE PANELS													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.003	0.000	0.000	0.00000	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001
DRIVE STEEL PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.025	0.066	0.001	0.001	0.00006	0.007
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.079	0.332	0.016	0.016	0.00021	0.021
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.023	0.052	0.003	0.003	0.00004	0.006
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.072	0.206	0.007	0.007	0.00016	0.013
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.024	0.047	0.003	0.003	0.00003	0.007
	Piledriving Hammer	2.4269	7.7957	0.3516	0.3235	0.0062	0.7012	0.184	0.530	0.014	0.013	0.00047	0.053
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.024	0.039	0.002	0.002	0.00004	0.007
INSTALL PC/PS CONCRETE PANELS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.019	0.049	0.001	0.001	0.00004	0.005
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.058	0.245	0.012	0.012	0.00016	0.016
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.017	0.038	0.002	0.002	0.00003	0.005
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.053	0.152	0.005	0.005	0.00012	0.009
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.018	0.034	0.002	0.002	0.00002	0.005
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.015	0.013	0.001	0.001	0.00002	0.005
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.017	0.013	0.001	0.001	0.00002	0.006

Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

						540		2010 Emission Factors					
						Duration		CO	NOx	PM10	PM2.5	SOx	VOC
PROJECT	Equipment Category	HP	No. of Equip Needed	Offroad LF	Onsite Mile/day/ vehicle	Days	Hrs/Day	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)
EMERGENCY SPILL BOOM PLATFORMS						**77**							
DELIVER STEEL PILES AND BULB-TEE SECTIONS													
	Truck (Highway)	400	6		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
	Hydraulic Crane	365	1	0.43		1	8	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843
Primary engine	Tugboat	1,600	1	0.68		1	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Tugboat	160	1	0.43		1	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
DRIVE STEEL PILES													
	Derrick Barge	800	1	0.43		10	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Work Tug	750	1	0.31		10	8	2.0197	8.5277	0.4208	0.4023	0.0055	0.5464
Auxiliary engine	Work Tug	100	1	0.43		10	8	3.2363	7.2366	0.4477	0.3637	0.0055	0.8562
Primary engine	Workboat/Crewboat	400	1	0.45		10	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		10	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Air Compressor	112	1	0.48		10	8	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983
FORM & POUR CONCRETE CAPS													
	Derrick Barge	800	1	0.43		48	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		48	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		48	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		48	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		48	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Concrete Pump	80	1	0.53		2	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
	Concrete Trucks	285	3		15	2	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
SET BULB-TEE GIRDERS													
	Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
FORM & POUR CONCRETE ROADWAY													
	Derrick Barge	800	1	0.43		16	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		16	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		16	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Welding Machine	48	1	0.45		16	8	6.0987	5.4914	0.5794	0.5330	0.0068	2.4808
	Air Compressor	56	1	0.48		16	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989
	Concrete Pump	80	1	0.53		1	8	5.8683	5.9545	0.5693	0.5237	0.0076	2.2927
	Concrete Trucks	285	3		15	1	8	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796
INSTALL GUARDRAIL													
	Derrick Barge	800	1	0.43		1	8	0.4359	1.2858	0.0400	0.0368	0.0010	0.1149
Primary engine	Workboat/Crewboat	400	1	0.45		1	8	2.3746	6.8458	0.2463	0.2291	0.0055	0.4270
Auxiliary engine	Workboat/Crewboat	80	1	0.43		1	8	4.2169	8.0894	0.4963	0.4963	0.0055	1.1420
	Air Compressor	56	1	0.48		1	8	5.3168	4.5087	0.5002	0.4602	0.0054	2.1989

Exhibit A.1 - Proposed Project Wharf Construction Activities A Exhibit A.1 - Proposed Project Wharf Construction Activities Average Daily Mitigated Emissions.

PROJECT	Equipment Category	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
EMERGENCY SPILL BOOM PLATFORMS													
DELIVER STEEL PILES AND BULB-TEE SECTIONS													
	Truck (Highway)	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.002	0.000	0.000	0.00000	0.000
	Hydraulic Crane	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330	0.002	0.005	0.000	0.000	0.00001	0.001
Primary engine	Tugboat	4.8446	20.4550	1.0093	0.9649	0.0131	1.3106	0.019	0.082	0.004	0.004	0.00005	0.005
Auxiliary engine	Tugboat	0.4909	1.0976	0.0679	0.0552	0.0008	0.1299	0.002	0.004	0.000	0.000	0.00000	0.001
DRIVE STEEL PILES													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.013	0.035	0.001	0.001	0.00003	0.003
Primary engine	Work Tug	1.0353	4.3711	0.2157	0.2062	0.0028	0.2801	0.041	0.175	0.009	0.008	0.00011	0.011
Auxiliary engine	Work Tug	0.3068	0.6860	0.0424	0.0345	0.0005	0.0812	0.012	0.027	0.002	0.001	0.00002	0.003
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.038	0.109	0.004	0.004	0.00009	0.007
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.013	0.025	0.002	0.002	0.00002	0.003
	Air Compressor	0.3127	0.5677	0.0515	0.0474	0.0005	0.0876	0.013	0.020	0.001	0.001	0.00002	0.004
FORM & POUR CONCRETE CAPS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.063	0.168	0.003	0.003	0.00015	0.017
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.181	0.522	0.019	0.017	0.00042	0.033
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.061	0.118	0.007	0.007	0.00008	0.017
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.051	0.044	0.003	0.002	0.00006	0.018
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.057	0.046	0.003	0.003	0.00006	0.020
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.004	0.004	0.000	0.000	0.00001	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.001	0.002	0.000	0.000	0.00000	0.000
SET BULB-TEE GIRDERS													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
FORM & POUR CONCRETE ROADWAY													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.021	0.056	0.001	0.001	0.00005	0.006
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.060	0.174	0.006	0.006	0.00014	0.011
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.020	0.039	0.002	0.002	0.00003	0.006
	Welding Machine	0.2666	0.2561	0.0260	0.0240	0.0003	0.0953	0.017	0.015	0.001	0.001	0.00002	0.006
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.019	0.015	0.001	0.001	0.00002	0.007
	Concrete Pump	0.5072	0.5352	0.0504	0.0464	0.0007	0.1738	0.002	0.002	0.000	0.000	0.00000	0.001
	Concrete Trucks	0.0120	0.0382	0.0018	0.0016	0.0000	0.0030	0.000	0.001	0.000	0.000	0.00000	0.000
INSTALL GUARDRAIL													
	Derrick Barge	0.3306	0.9751	0.0303	0.0279	0.0008	0.0872	0.001	0.003	0.000	0.000	0.00000	0.000
Primary engine	Workboat/Crewboat	0.9423	2.7166	0.0977	0.0909	0.0022	0.1694	0.004	0.011	0.000	0.000	0.00001	0.001
Auxiliary engine	Workboat/Crewboat	0.3198	0.6135	0.0376	0.0376	0.0004	0.0866	0.001	0.002	0.000	0.000	0.00000	0.000
	Air Compressor	0.2970	0.2672	0.0289	0.0266	0.0003	0.1060	0.001	0.001	0.000	0.000	0.00000	0.000

Exhibit A.2 Pipeline Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H.1.PP.Mit.Const-6.

					2010 Emission Factors						2010 Emission Factors					
					CO	NOx	PM10	PM2.5	SOx	VOC	CO	NOx	PM10	PM2.5	SOx	VOC
Equipment	Equipment Category	hp	Offroad LF	Note	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)
											25% Compliance with MM AQ-3					
42" - 36" - Terminal Island											NOx, VOC, CO, PM - Offroad Equipment Only					
20,600 lf 42" + 1,900 lf 36"																
Pickup	Passenger Vehicles On-Road	200			3.7479	0.4165	0.0395	0.0248	0.0049	0.4146	8.263E-3	9.181E-4	8.698E-5	5.478E-5	1.077E-5	9.140E-4
1 Ton Flatbed	Delivery Trucks On-Road	479		(5)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
2 Ton Flatbed	Delivery Trucks On-Road	479		(5)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
Semi Truck with Trailer	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Water Truck	Delivery Trucks On-Road	175		(2)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
Dump Truck	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Vacuum Truck	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Air Compressor 120	Air Compressors	120	0.48	(1)	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983	0.3351	0.5883	0.0446	0.0410	0.0006	0.0916
Air Compressor 475	Air Compressors	475	0.48	(1)	1.2811	4.1696	0.1422	0.1308	0.0043	0.3673	0.6440	2.0959	0.0715	0.0658	0.0022	0.1846
Air Compressor 1200	Air Compressors	1200	0.48	(1)	1.7568	5.6883	0.1710	0.1573	0.0046	0.4916	2.2309	6.7890	0.1974	0.1816	0.0059	0.6206
Backhoe (Rubber Tired)	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0461	0.0424	0.0010	0.1072
Backhoe Crawler	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0461	0.0424	0.0010	0.1072
Bending Machine	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
All Terrain Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
Truck Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
Sideboom	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Loader	Rubber Tired Loaders	215	0.54	(2)	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018	0.3620	1.2727	0.0430	0.0396	0.0014	0.1277
Reed Screen	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Asphalt Rollers	Rollers	160	0.56	(3)	2.9021	5.5644	0.3049	0.2805	0.0056	0.6840	0.5733	1.0422	0.0524	0.0482	0.0011	0.1255
Forklift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3060	0.0245	0.0225	0.0003	0.0480
Generator	Generator Sets	45	0.74	(2)	3.5604	3.7634	0.3480	0.3202	0.0049	1.3691	0.2614	0.2763	0.0255	0.0235	0.0004	0.0857
Concrete Saw	Concrete/Industrial Saws	160	0.73	(3)	3.1195	5.8439	0.3066	0.2821	0.0064	0.6842	0.8033	1.4125	0.0686	0.0632	0.0016	0.1637
Weld Rig	Welders	160	0.45	(3)	3.1763	6.2761	0.3396	0.3124	0.0064	0.7677	0.5042	0.9222	0.0459	0.0423	0.0010	0.1108
Fill Pump	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492
Hydro Test Pump	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492
Auger Bore Machine	Bore/Drill Rigs	160	0.75	(3)	2.6068	3.1616	0.1664	0.1531	0.0055	0.3213	0.6896	0.8364	0.0440	0.0405	0.0015	0.0850

Exhibit A.2 Pipeline Construction Emissions - Adapted fr	Exhibit A.2 Pipeline Construction Emissions											
							Total Emissions					
Equipment	Equipment Category	Use/Day (hr / day)	mph	Onsite Mile/day/ vehicle	Days / Week	Equip. Weeks	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
42" - 36" - Terminal Island			75 % Compliance with MM AQ 4 -->				0%	11%	47%	47%	0%	0%
20,600 lf 42" + 1,900 lf 36"												
Pickup	Passenger Vehicles On-Road		30	15	6	420	0.15	0.017	0.002	0.001	0.000	0.017
1 Ton Flatbed	Delivery Trucks On-Road		30	15	6	60	0.05	0.053	0.002	0.002	0.000	0.007
2 Ton Flatbed	Delivery Trucks On-Road		30	15	6	150	0.12	0.133	0.005	0.004	0.000	0.017
Semi Truck with Trailer	On-Highway Truck		30	15	6	28	0.01	0.046	0.002	0.002	0.000	0.004
Water Truck	Delivery Trucks On-Road		30	15	6	78	0.06	0.069	0.003	0.002	0.000	0.009
Dump Truck	On-Highway Truck		30	15	6	240	0.12	0.395	0.019	0.017	0.000	0.031
Vacuum Truck	On-Highway Truck		30	15	6	1	0.00	0.002	0.000	0.000	0.000	0.000
Air Compressor 120	Air Compressors	5			6	78	0.38	0.590	0.026	0.024	0.001	0.103
Air Compressor 475	Air Compressors	5			6	72	0.67	1.939	0.039	0.036	0.002	0.191
Air Compressor 1200	Air Compressors	5			6	1	0.03	0.087	0.001	0.001	0.000	0.009
Backhoe (Rubber Tired)	Tractors/Loaders/Backhoes	10			6	78	1.20	1.755	0.054	0.050	0.002	0.240
Backhoe Crawler	Tractors/Loaders/Backhoes	10			6	72	1.11	1.620	0.050	0.046	0.002	0.222
Bending Machine	Other Construction Equipment	5			6	26	0.20	0.303	0.009	0.008	0.000	0.040
All Terrain Crane	Cranes	10			6	28	0.39	0.931	0.021	0.020	0.001	0.107
Truck Crane	Cranes	10			6	52	0.72	1.729	0.039	0.036	0.002	0.199
Sideboom	Other Construction Equipment	5			6	96	0.74	1.120	0.034	0.031	0.002	0.147
Loader	Rubber Tired Loaders	10			6	78	0.81	2.551	0.051	0.047	0.003	0.286
Reed Screen	Other Construction Equipment	5			6	6	0.05	0.070	0.002	0.002	0.000	0.009
Asphalt Rollers	Rollers	5			6	52	0.43	0.696	0.021	0.019	0.001	0.094
Forklift	Forklifts	10			6	30	0.17	0.236	0.011	0.010	0.000	0.041
Generator	Generator Sets	5			6	26	0.10	0.092	0.005	0.005	0.000	0.032
Concrete Saw	Concrete/Industrial Saws	5			6	24	0.28	0.436	0.012	0.011	0.001	0.056
Weld Rig	Welders	5			6	192	1.39	2.275	0.067	0.061	0.003	0.306
Fill Pump	Pumps	5			6	4	0.04	0.067	0.002	0.002	0.000	0.009
Hydro Test Pump	Pumps	5			6	2	0.02	0.034	0.001	0.001	0.000	0.004
Auger Bore Machine	Bore/Drill Rigs	5			6	8	0.08	0.086	0.003	0.002	0.000	0.010
			Fugitive Dust (Mitigated)->						**0.369**	**0.077**		

Exhibit A.2 Pipeline Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H.1.PP.Mit.Const-6.

					2010 Emission Factors						2010 Emission Factors					
					CO	NOx	PM10	PM2.5	SOx	VOC	CO	NOx	PM10	PM2.5	SOx	VOC
Equipment	Equipment Category	hp	Offroad LF	Note	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)
36" -HDD/Open Cut / Assist HDD - Wilimington																
10,500 lf 36"																
Pickup	Passenger Vehicles On-Road	200			3.7479	0.4165	0.0395	0.0248	0.0049	0.4146	8.263E-3	9.181E-4	8.698E-5	5.478E-5	1.077E-5	9.140E-4
1 Ton Flatbed	Delivery Trucks On-Road	479		(5)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
2 Ton Flatbed	Delivery Trucks On-Road	479		(5)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
Semi Truck with Trailer	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Water Truck	Delivery Trucks On-Road	175		(2)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
Dump Truck	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Vacuum Truck	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Air Compressor	Air Compressors	112	0.48	(1)	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983	0.3127	0.5490	0.0416	0.0383	0.0005	0.0855
Air Compressor	Air Compressors	112	0.48	(1)	1.2811	4.1696	0.1422	0.1308	0.0043	0.3673	0.1518	0.4942	0.0169	0.0155	0.0005	0.0435
Air Compressor	Air Compressors	112	0.48	(1)	1.7568	5.6883	0.1710	0.1573	0.0046	0.4916	0.2082	0.6363	0.0203	0.0186	0.0005	0.0582
Backhoe (Rubber Tired)	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0461	0.0424	0.0010	0.1072
Backhoe Crawler	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0461	0.0424	0.0010	0.1072
Bending Machine	Other Construction Equip.	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
All Terrain Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
Truck Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
Sideboom	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1069
Loader	Rubber Tired Loaders	215	0.54	(2)	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018	0.3620	1.2727	0.0430	0.0396	0.0014	0.1277
Reed Screen	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Asphalt Rollers	Rollers	160	0.56	(3)	2.9021	5.5644	0.3049	0.2805	0.0056	0.6840	0.5733	1.0422	0.0524	0.0482	0.0011	0.1255
Forklift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3060	0.0245	0.0225	0.0003	0.0480
Generator	Generator Sets	45	0.74	(2)	3.5604	3.7634	0.3480	0.3202	0.0049	1.3691	0.2614	0.2763	0.0259	0.0238	0.0004	0.0857
Concrete Saw	Concrete/Industrial Saws	160	0.73	(3)	3.1195	5.8439	0.3066	0.2821	0.0064	0.6842	0.8033	1.4125	0.0686	0.0632	0.0016	0.1637
Weld Rig	Welders	160	0.45	(3)	3.1763	6.2761	0.3396	0.3124	0.0064	0.7677	0.5042	0.9222	0.0459	0.0423	0.0010	0.1108
Fill Pump	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492
Hydro Test Pump	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492
Auger Bore Machine	Bore/Drill Rigs	160	0.75	(3)	2.6068	3.1616	0.1664	0.1531	0.0055	0.3213	0.6896	0.8364	0.0440	0.0405	0.0015	0.0850
Drill Rig	Bore/Drill Rigs	160	0.75	(3)	2.6068	3.1616	0.1664	0.1531	0.0055	0.3213	0.6896	0.8364	0.0440	0.0405	0.0015	0.0850
Central Unit	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Mud Recycling System	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Mixing Tank	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Pumps	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492
Cleaning System	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Survey System	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Frac Tanks	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Light Towers	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Dumpster	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068

Exhibit A.2 Pipeline Construction Emissions - Adapted fr	Exhibit A.2 Pipeline Construction Emissions											
							Total Emissions					
Equipment	Equipment Category	Use/Day (hr / day)	mph	Onsite Mile/day/ vehicle	Days / Week	Equip. Weeks	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
36" -HDD/Open Cut / Assist HDD - Wilimington												
10,500 lf 36"												
Pickup	Passenger Vehicles On-Road		30	15	6	986	0.35	0.039	0.004	0.002	0.000	0.039
1 Ton Flatbed	Delivery Trucks On-Road		30	15	6	44	0.03	0.039	0.001	0.001	0.000	0.005
2 Ton Flatbed	Delivery Trucks On-Road		30	15	6	348	0.28	0.309	0.011	0.010	0.000	0.039
Semi Truck with Trailer	On-Highway Truck		30	15	6	22	0.01	0.036	0.002	0.002	0.000	0.003
Water Truck	Delivery Trucks On-Road		30	15	6	60	0.05	0.053	0.002	0.002	0.000	0.007
Dump Truck	On-Highway Truck		30	15	6	16	0.01	0.026	0.001	0.001	0.000	0.002
Vacuum Truck	On-Highway Truck		30	15	6	2	0.00	0.003	0.000	0.000	0.000	0.000
Air Compressor	Air Compressors	5			6	60	0.27	0.423	0.019	0.017	0.000	0.074
Air Compressor	Air Compressors	5			6	48	0.10	0.305	0.006	0.006	0.000	0.030
Air Compressor	Air Compressors	5			6	2	0.01	0.016	0.000	0.000	0.000	0.002
Backhoe (Rubber Tired)	Tractors/Loaders/Backhoes	10			6	136	2.10	3.059	0.095	0.087	0.004	0.419
Backhoe Crawler	Tractors/Loaders/Backhoes	10			6	136	2.10	3.059	0.095	0.087	0.004	0.419
Bending Machine	Other Construction Equip.	5			6	4	0.03	0.047	0.001	0.001	0.000	0.006
All Terrain Crane	Cranes	10			6	100	1.39	3.325	0.076	0.070	0.004	0.382
Truck Crane	Cranes	10			6	48	0.67	1.596	0.036	0.033	0.002	0.183
Sideboom	Other Construction Equipment	5			6	64	0.50	0.746	0.022	0.021	0.001	0.098
Loader	Rubber Tired Loaders	10			6	16	0.17	0.523	0.010	0.010	0.001	0.059
Reed Screen	Other Construction Equipment	5			6	6	0.05	0.070	0.002	0.002	0.000	0.009
Asphalt Rollers	Rollers	5			6	6	0.05	0.080	0.002	0.002	0.000	0.011
Forklift	Forklifts	10			6	116	0.65	0.912	0.043	0.040	0.001	0.160
Generator	Generator Sets	5			6	336	1.26	1.193	0.066	0.061	0.002	0.413
Concrete Saw	Concrete/Industrial Saws	5			6	4	0.05	0.073	0.002	0.002	0.000	0.009
Weld Rig	Welders	10			6	128	1.85	3.033	0.089	0.082	0.004	0.407
Fill Pump	Pumps	5			6	2	0.02	0.034	0.001	0.001	0.000	0.004
Hydro Test Pump	Pumps	5			6	2	0.02	0.034	0.001	0.001	0.000	0.004
Auger Bore Machine	Bore/Drill Rigs	5			6	4	0.04	0.043	0.001	0.001	0.000	0.005
Drill Rig	Bore/Drill Rigs	5			6	30	0.30	0.322	0.010	0.009	0.001	0.037
Central Unit	Other Construction Equipment	5			6	30	0.23	0.350	0.011	0.010	0.000	0.046
Mud Recycling System	Other Construction Equipment	5			6	30	0.23	0.350	0.011	0.010	0.000	0.046
Mixing Tank	Other Construction Equipment	5			6	30	0.23	0.350	0.011	0.010	0.000	0.046
Pumps	Pumps	5			6	60	0.59	1.005	0.028	0.026	0.001	0.129
Cleaning System	Other Construction Equipment	5			6	30	0.23	0.350	0.011	0.010	0.000	0.046
Survey System	Other Construction Equipment	5			6	30	0.23	0.350	0.011	0.010	0.000	0.046
Frac Tanks	Other Construction Equipment	5			6	120	0.93	1.400	0.042	0.039	0.002	0.184
Light Towers	Other Construction Equipment	5			6	120	0.93	1.400	0.042	0.039	0.002	0.184
Dumpster	Other Construction Equipment	5			6	30	0.23	0.350	0.011	0.010	0.000	0.046
				Fugitive Dust (Mitigated)->					**0.984**	**0.205**		

Exhibit A.2 Pipeline Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H.1.PP.Mit.Const-6.

					2010 Emission Factors						2010 Emission Factors					
					CO	NOx	PM10	PM2.5	SOx	VOC	CO	NOx	PM10	PM2.5	SOx	VOC
Equipment	Equipment Category	hp	Offroad LF	Note	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	g/hp-hr (Offroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)	lb/hr (Offroad) or lb/mile (Onroad)
24" - Valero																
6,420 lf 24" + 990 lf 16"																
Pickup	Passenger Vehicles On-Road	200			3.7479	0.4165	0.0395	0.0248	0.0049	0.4146	8.263E-3	9.181E-4	8.698E-5	5.478E-5	1.077E-5	9.140E-4
1 Ton Flatbed	Delivery Trucks On-Road	479		(5)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
2 Ton Flatbed	Delivery Trucks On-Road	479		(5)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
Semi Truck with Trailer	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Water Truck	Delivery Trucks On-Road	175		(2)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
Dump Truck	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Vacuum Truck	On-Highway Truck	479		(5)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Air Compressor 175	Air Compressors	112	0.48	(1)	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983	0.3127	0.5490	0.0416	0.0383	0.0005	0.0855
Air Compressor 475	Air Compressors	112	0.48	(1)	1.2811	4.1696	0.1422	0.1308	0.0043	0.3673	0.1518	0.4942	0.0169	0.0155	0.0005	0.0435
Air Compressor 1200	Air Compressors	112	0.48	(1)	1.7568	5.6883	0.1710	0.1573	0.0046	0.4916	0.2082	0.6363	0.0203	0.0186	0.0005	0.0582
Backhoe (Rubber Tired)	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0461	0.0424	0.0010	0.1072
Bending Machine	Other Construction Equipment	160	0.62	(2)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
All Terrain Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
Truck Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
Sideboom	Other Construction Equipment	160	0.62	(3)	2.4668	4.1502	0.2269	0.2087	0.0050	0.4884	0.5395	0.9076	0.0463	0.0426	0.0011	0.1068
Loader	Rubber Tired Loaders	215	0.54	(2)	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018	0.3620	1.2727	0.0430	0.0396	0.0014	0.1277
Asphalt Rollers	Rollers	160	0.56	(3)	2.9021	5.5644	0.3049	0.2805	0.0056	0.6840	0.5733	1.0422	0.0524	0.0482	0.0011	0.1255
Forklift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3060	0.0245	0.0225	0.0003	0.0480
Generator	Generator Sets	45	0.74	(2)	3.5604	3.7634	0.3480	0.3202	0.0049	1.3691	0.2614	0.2763	0.0259	0.0238	0.0004	0.0857
Weld Rig	Welders	160	0.45	(3)	3.1763	6.2761	0.3396	0.3124	0.0064	0.7677	0.5042	0.9222	0.0459	0.0423	0.0010	0.1108
Fill Pump	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492
Hydro Test Pump	Pumps	160	0.74	(3)	2.6233	5.1892	0.2599	0.2391	0.0055	0.5986	0.6848	1.3037	0.0612	0.0563	0.0014	0.1492

Exhibit A.2 Pipeline Construction Emissions - Adapted fr	Exhibit A.2 Pipeline Construction Emissions											
							Total Emissions					
Equipment	Equipment Category	Use/Day (hr / day)	mph	Onsite Mile/day/ vehicle	Days / Week	Equip. Weeks	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
24" - Valero												
6,420 lf 24" + 990 lf 16"												
Pickup	Passenger Vehicles On-Road		30	15	6	168	0.06	0.007	0.001	0.000	0.000	0.007
1 Ton Flatbed	Delivery Trucks On-Road		30	15	6	16	0.01	0.014	0.001	0.000	0.000	0.002
2 Ton Flatbed	Delivery Trucks On-Road		30	15	6	40	0.03	0.036	0.001	0.001	0.000	0.004
Semi Truck with Trailer	On-Highway Truck		30	15	6	8	0.00	0.013	0.001	0.001	0.000	0.001
Water Truck	Delivery Trucks On-Road		30	15	6	8	0.01	0.007	0.000	0.000	0.000	0.001
Dump Truck	On-Highway Truck		30	15	6	16	0.01	0.026	0.001	0.001	0.000	0.002
Vacuum Truck	On-Highway Truck		30	15	6	1	0.00	0.002	0.000	0.000	0.000	0.000
Air Compressor 175	Air Compressors	5			6	24	0.11	0.169	0.008	0.007	0.000	0.029
Air Compressor 475	Air Compressors	5			6	3	0.01	0.019	0.000	0.000	0.000	0.002
Air Compressor 1200	Air Compressors	5			6	2	0.01	0.016	0.000	0.000	0.000	0.002
Backhoe (Rubber Tired)	Tractors/Loaders/Backhoes	10			6	24	0.37	0.540	0.017	0.015	0.001	0.074
Bending Machine	Other Construction Equipment	5			6	6	0.05	0.070	0.002	0.002	0.000	0.009
All Terrain Crane	Cranes	10			6	8	0.11	0.266	0.006	0.006	0.000	0.031
Truck Crane	Cranes	10			6	12	0.17	0.399	0.009	0.008	0.000	0.046
Sideboom	Other Construction Equipment	5			6	12	0.09	0.140	0.004	0.004	0.000	0.018
Loader	Rubber Tired Loaders	10			6	18	0.19	0.589	0.012	0.011	0.001	0.066
Asphalt Rollers	Rollers	5			6	8	0.07	0.107	0.003	0.003	0.000	0.014
Forklift	Forklifts	10			6	10	0.06	0.079	0.004	0.003	0.000	0.014
Generator	Generator Sets	5			6	6	0.02	0.021	0.001	0.001	0.000	0.007
Weld Rig	Welders	10			6	32	0.46	0.758	0.022	0.020	0.001	0.102
Fill Pump	Pumps	5			6	2	0.02	0.034	0.001	0.001	0.000	0.004
Hydro Test Pump	Pumps	5			6	1	0.01	0.017	0.000	0.000	0.000	0.002
				Fugitive Dust (Mitigated)->					**0.196**	**0.0408**		

Exhibit A.3 Site Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H.1.PP.Mit.Const-7

Equipment		Equipment Category	hp	Offroad LF	Note	CO g/hp-hr (Offroad) or g/mile (Onroad)	NOx g/hp-hr (Offroad) or g/mile (Onroad)	PM10 g/hp-hr (Offroad) or g/mile (Onroad)	PM2.5 g/hp-hr (Offroad) or g/mile (Onroad)	SOx g/hp-hr (Offroad) or g/mile (Onroad)	VOC g/hp-hr (Offroad) or g/mile (Onroad)	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)
												25% Compliance with MM AQ-3					
Site 1												NOx, VOC, CO, PM - Offroad Equipment Only					
Soil Stabilization																	
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
	Boring Machine	Bore/Drill Rigs	160	0.75	(3)	2.6068	3.1616	0.1664	0.1531	0.0055	0.3213	0.6896	0.8364	0.0440	0.0405	0.0015	0.0850
	Dump Truck	On-Highway HHDDT	479		(6)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
Construction																	
	Pick-up	Passenger Vehicles On-Road	200			3.7479	0.4165	0.0395	0.0248	0.0049	0.4146	8.263E-3	9.181E-4	8.698E-5	5.478E-5	1.077E-5	9.140E-4
	Dozer	Rubber Tired Dozers	160	0.59	(3)	3.8160	7.8553	0.4552	0.4188	0.0064	1.0534	0.7881	1.4556	0.0825	0.0759	0.0013	0.1899
	Loader	Rubber Tired Loaders	215	0.54	(2)	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018	0.3620	1.2727	0.0459	0.0422	0.0014	0.1277
	Backhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Trackhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
	Boom-Truck	On-Highway HHDDT	479		(6)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
	Water Truck	Delivery Trucks On-Road	175		(2)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
	Man-Lift	Aerial Lifts	160	0.46	(3)	4.1144	7.2548	0.4218	0.3881	0.0079	0.9241	0.6508	1.0618	0.0603	0.0554	0.0013	0.1323
	Compactor	Plate Compactor	160	0.43	(3)	3.7795	7.2467	0.3971	0.3653	0.0073	0.8907	0.5703	0.9916	0.0535	0.0492	0.0011	0.1199
	Fork Lift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3061	0.0263	0.0242	0.0003	0.0480
	Welding Rigs	Welders	160	0.45	(3)	3.1763	6.2761	0.3396	0.3124	0.0064	0.7677	0.5042	0.9222	0.0492	0.0452	0.0010	0.1108
	Air Compressor	Air Compressors	112	0.48	(1)	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983	0.3127	0.5490	0.0447	0.0411	0.0005	0.0855
Tanks (2-250,000 Bbl, 1-50,000 Bbl, 1-15,000Bbl)																	
	Diesel Generator	Generator Sets	45	0.74	(2)	3.5604	3.7634	0.3480	0.3202	0.0049	1.3691	0.2614	0.2763	0.0255	0.0235	0.0004	0.0857
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1412
	Forklift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3061	0.0263	0.0242	0.0003	0.0480
	Manlift	Aerial Lifts	160	0.46	(3)	4.1144	7.2548	0.4218	0.3881	0.0079	0.9241	0.6508	1.0618	0.0603	0.0554	0.0013	0.1323
Site 2 (New)																	
Soil Stabilization																	
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
	Boring Machine	Bore/Drill Rigs	160	0.75	(3)	2.6068	3.1616	0.1664	0.1531	0.0055	0.3213	0.6896	0.8364	0.0440	0.0405	0.0015	0.0850
	Dump Truck	On-Highway HHDDT	479		(6)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
	Trackhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Scraper	Scrapers	195	0.72	(2)	1.8568	6.2541	0.2535	0.2333	0.0059	0.6598	0.5747	1.7931	0.0705	0.0648	0.0018	0.1911
	Dozer	Rubber Tired Dozers	160	0.59	(3)	3.8160	7.8553	0.4552	0.4188	0.0064	1.0534	0.7881	1.4556	0.0825	0.0759	0.0013	0.1899
	Compactor	Plate Compactor	160	0.43	(3)	3.7795	7.2467	0.3971	0.3653	0.0073	0.8907	0.5703	0.9916	0.0535	0.0492	0.0011	0.1199
Construction																	
	Pick-up	Passenger Vehicles On-Road	200			3.7479	0.4165	0.0395	0.0248	0.0049	0.4146	8.263E-3	9.181E-4	8.698E-5	5.478E-5	1.077E-5	9.140E-4
	Dozer	Rubber Tired Dozers	160	0.59	(3)	3.8160	7.8553	0.4552	0.4188	0.0064	1.0534	0.7881	1.4556	0.0825	0.0759	0.0013	0.1899
	Loader	Rubber Tired Loaders	215	0.54	(2)	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018	0.3620	1.2727	0.0459	0.0422	0.0014	0.1277
	Backhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Trackhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
	Boom-Truck	On-Highway HHDDT	479		(6)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
	Water Truck	Delivery Trucks On-Road	175		(2)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
	Man-Lift	Aerial Lifts	160	0.46	(3)	4.1144	7.2548	0.4218	0.3881	0.0079	0.9241	0.6508	1.0618	0.0603	0.0554	0.0013	0.1323
	Compactor	Plate Compactor	160	0.43	(3)	3.7795	7.2467	0.3971	0.3653	0.0073	0.8907	0.5703	0.9916	0.0535	0.0492	0.0011	0.1199
	Fork Lift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3061	0.0263	0.0242	0.0003	0.0480
	Welding Rigs	Welders	160	0.45	(3)	3.1763	6.2761	0.3396	0.3124	0.0064	0.7677	0.5042	0.9222	0.0492	0.0452	0.0010	0.1108
	Air Compressor	Air Compressors	112	0.48	(1)	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983	0.3127	0.5490	0.0447	0.0411	0.0005	0.0855
Tanks (8-250,000 bbl)																	
	Diesel Generator	Generator Sets	45	0.74	(2)	3.5604	3.7634	0.3480	0.3202	0.0049	1.3691	0.2614	0.2763	0.0255	0.0235	0.0004	0.0857
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1412
	Forklift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3061	0.0263	0.0242	0.0003	0.0480
	Manlift	Aerial Lifts	160	0.46	(3)	4.1144	7.2548	0.4218	0.3881	0.0079	0.9241	0.6508	1.0618	0.0603	0.0554	0.0013	0.1323

Exhibit A.3 Site Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table Exhibit A.3 Site Construction Emissions (continued)

Equipment		Equipment Category	Use/Day (hr/day)	mph	Onsite Mile/day/ vehicle	Days / Week	Equip. Weeks	Project Total Emissions: CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
Site 1				75 % Compliance with MM AQ 4 -->				0%	11%	47%	47%	0%	0%
Soil Stabilization													
	Crane	Cranes	10			6	144	2.00	4.79	0.109	0.100	0.005	0.550
	Boring Machine	Bore/Drill Rigs	10			6	144	2.85	3.10	0.096	0.088	0.006	0.351
	Dump Truck	On-Highway HHDDT		30	30	6	480	0.49	1.58	0.076	0.066	0.002	0.126
Construction													
	Pick-up	Passenger Vehicles On-Road		30	15	6	533	0.19	0.02	0.002	0.001	0.000	0.021
	Dozer	Rubber Tired Dozers	10			6	9	0.20	0.34	0.011	0.010	0.000	0.049
	Loader	Rubber Tired Loaders	10			6	45	0.47	1.47	0.031	0.029	0.002	0.165
	Backhoe	Tractors/Loaders/Backhoes	10			6	86	1.33	1.93	0.064	0.059	0.003	0.265
	Trackhoe	Tractors/Loaders/Backhoes	10			6	41	0.63	0.92	0.031	0.028	0.001	0.126
	Crane	Cranes	10			6	39	0.54	1.30	0.030	0.027	0.001	0.149
	Boom-Truck	On-Highway HHDDT		30	15	6	33	0.02	0.05	0.003	0.002	0.000	0.004
	Water Truck	Delivery Trucks On-Road			15	6	84	0.07	0.07	0.003	0.002	0.000	0.009
	Man-Lift	Aerial Lifts	5			6	29	0.27	0.40	0.013	0.012	0.001	0.055
	Compactor	Plate Compactor	10			6	8	0.13	0.20	0.006	0.006	0.000	0.028
	Fork Lift	Forklifts	10			6	69	0.39	0.54	0.027	0.025	0.001	0.095
	Welding Rigs	Welders	10			6	196	2.84	4.65	0.146	0.134	0.006	0.624
	Air Compressor	Air Compressors	5			6	57	0.26	0.40	0.019	0.018	0.000	0.070
Tanks (2-250,000 Bbl, 1-50,000 Bbl, 1-15,000Bbl)													
	Diesel Generator	Generator Sets	5			6	85	0.32	0.30	0.016	0.015	0.000	0.105
	Crane	Cranes	10			6	119	1.65	3.96	0.090	0.083	0.004	0.483
	Forklift	Forklifts	10			6	46	0.26	0.36	0.018	0.017	0.000	0.063
	Manlift	Aerial Lifts	5			6	15	0.14	0.20	0.007	0.006	0.000	0.029
				Fugitive Dust (Mitigated)->						**4.16**	**0.86**		
Site 2 (New)													
Soil Stabilization													
	Crane	Cranes	10			6	110	1.53	3.66	0.083	0.077	0.004	0.420
	Boring Machine	Bore/Drill Rigs	10			6	110	2.18	2.36	0.073	0.067	0.005	0.268
	Dump Truck	On-Highway HHDDT		30	30	6	373	0.38	1.23	0.059	0.051	0.001	0.098
	Trackhoe	Tractors/Loaders/Backhoes	10			6	45	0.69	1.01	0.034	0.031	0.001	0.138
	Scraper	Scrapers	5			6	42	0.35	0.97	0.022	0.021	0.001	0.115
	Dozer	Rubber Tired Dozers	10			6	49	1.11	1.83	0.061	0.056	0.002	0.267
	Compactor	Plate Compactor	10			6	39	0.64	0.99	0.032	0.029	0.001	0.134
Construction													
	Pick-up	Passenger Vehicles On-Road		30	30	6	904	0.64	0.07	0.007	0.004	0.001	0.071
	Dozer	Rubber Tired Dozers	10			6	7	0.16	0.26	0.009	0.008	0.000	0.038
	Loader	Rubber Tired Loaders	10			6	64	0.67	2.09	0.045	0.041	0.003	0.235
	Backhoe	Tractors/Loaders/Backhoes	10			6	160	2.47	3.60	0.119	0.110	0.005	0.492
	Trackhoe	Tractors/Loaders/Backhoes	10			6	68	1.05	1.53	0.051	0.047	0.002	0.209
	Crane	Cranes	10			6	115	1.60	3.82	0.087	0.080	0.004	0.439
	Boom-Truck	On-Highway HHDDT		30	15	6	88	0.05	0.14	0.007	0.006	0.000	0.012
	Water Truck	Delivery Trucks On-Road			15	6	84	0.07	0.07	0.003	0.002	0.000	0.009
	Man-Lift	Aerial Lifts	5			6	58	0.54	0.79	0.026	0.024	0.001	0.110
	Compactor	Plate Compactor	10			6	16	0.26	0.41	0.013	0.012	0.001	0.055
	Fork Lift	Forklifts	10			6	140	0.79	1.10	0.056	0.051	0.001	0.193
	Welding Rigs	Welders	10			6	476	6.89	11.28	0.354	0.326	0.014	1.515
	Air Compressor	Air Compressors	5			6	128	0.57	0.90	0.043	0.040	0.001	0.157
Tanks (8-250,000 bbl)													
	Diesel Generator	Generator Sets	5			6	223	0.84	0.79	0.043	0.040	0.001	0.274
	Crane	Cranes	10			6	392	5.44	13.03	0.297	0.273	0.015	1.590
	Forklift	Forklifts	10			6	201	1.13	1.58	0.080	0.074	0.002	0.277
	Manlift	Aerial Lifts	5			6	40	0.37	0.55	0.018	0.017	0.001	0.076
				Fugitive Dust (Mitigated)->						**1.91**	**0.40**		

Exhibit A.3 (continued) Proposed Project Construction Activities Summary of Average Daily Mitigated POV Emissions (Phase 1).									
	Start	**End**	**Net Workdays, 6 days/wk, less holidays**	**ROG (lb/day)**	**CO (lb/day)**	**NOx (lb/day)**	**SO2 (lb/day)**	**PM10 (lb/day)**	**PM2.5 (lb/day)**
Total	7/20/2010	2/25/2012	486	**43.71**	**453.88**	**353.16**	**0.63**	**98.88**	**31.90**
Building	7/20/2010	2/23/2012	485						
Building Off Road Diesel				2.59	7.78	12.04	-	0.43	0.39
Building	8/3/2010	2/25/2012	474						
Building Off Road Diesel				2.59	7.78	12.04	-	0.43	0.39
Building	10/12/2010	1/7/2012	374						
Building Off Road Diesel				2.59	7.78	12.04	-	0.43	0.39
Mass Grading	8/3/2010	12/4/2010	103						
Mass Grading Dust				-	-	-	-	40.48	8.45
Mass Grading Off Road Diesel				2.85	11.72	23.01	-	1.24	1.14
Mass Grading	8/17/2010	12/15/2010	101						
Mass Grading Dust				-	-	-	-	40.48	8.45
Mass Grading Off Road Diesel				2.85	11.72	23.01	-	1.24	1.14
Trenching	9/28/2010	12/10/2011	365						
Trenching Off Road Diesel				1.41	5.37	12.20	-	0.30	0.28
Offroad Total				14.90	52.16	94.34	-	85.04	20.65
Vendor and Worker Trips				28.82	401.72	258.82	0.63	13.84	11.25
Note: All start and end dates have been moved into the future approximately 18 months.									

Exhibit A.3 (continued) Proposed Project Construction Activities Summary of Average Daily Mitigated POV Emissions (Phase 1).													
	Start	**End**	**Net Workdays**	**2010**	**2011**	**2012**	**Years**	**ROG (tons/year)**	**CO (tons/year)**	**NOx (tons/year)**	**SO2 (tons/year)**	**PM10 (tons/year)**	**PM2.5 (tons/year)**
Total	7/20/2010	2/25/2012	486	137	302	47	2010	**0.77**	**2.68**	**4.80**	**-**	**4.34**	**1.05**
							2011	**1.38**	**4.30**	**7.21**	**-**	**0.24**	**0.22**
							2012	**0.13**	**0.38**	**0.59**	**-**	**0.02**	**0.02**
Building	7/20/2010	2/23/2012					2010	0.18	0.53	0.82	-	0.03	0.03
							2011	0.39	1.18	1.82	-	0.07	0.06
Building Off Road Diesel			485	137	302	46	2012	0.06	0.18	0.27	-	0.01	0.01
Building	8/3/2010	2/25/2012					2010	0.16	0.49	0.75	-	0.03	0.02
							2011	0.39	1.18	1.82	-	0.07	0.06
Building Off Road Diesel			474	125	302	47	2012	0.06	0.18	0.28	-	0.01	0.01
Building	10/12/2010	1/7/2012					2010	0.09	0.26	0.40	-	0.01	0.01
							2011	0.39	1.18	1.82	-	0.07	0.06
Building Off Road Diesel			374	66	302	6	2012	0.01	0.02	0.04	-	0.001	0.001
Mass Grading	8/3/2010	12/4/2010					2010	-	-	-	-	2.09	0.44
Mass Grading Dust							2011	-	-	-	-	-	-
			103	103	-	-	2012	-	-	-	-	-	-
							2010	0.15	0.60	1.19	-	0.06	0.06
							2011	-	-	-	-	-	-
Mass Grading Off Road Diesel			103	103	-	-	2012	-	-	-	-	-	-
Mass Grading	8/17/2010	12/15/2010					2010	-	-	-	-	2.04	0.43
Mass Grading Dust							2011	-	-	-	-	-	-
			101	101	-	-	2012	-	-	-	-	-	-
							2010	0.14	0.59	1.16	-	0.06	0.06
							2011	-	-	-	-	-	-
Mass Grading Off Road Diesel			101	101	-	-	2012	-	-	-	-	-	-
Trenching	9/28/2010	12/10/2011					2010	0.05	0.21	0.48	-	0.01	0.01
							2011	0.20	0.77	1.75	-	0.04	0.04
Trenching Off Road Diesel			365	78	287	-	2012	-	-	-	-	-	-
Offroad - Total Project tons							Total	2.28	7.36	12.60	-	4.60	1.29
Offroad - Total Annual tpy							2010	0.77	2.68	4.80	-	4.34	1.05
							2011	1.38	4.30	7.21	-	0.24	0.22
							2012	0.13	0.38	0.59	-	0.02	0.02

Exhibit A.4 Site Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H.1.PP.Mit.Const-8

Equipment		Equipment Category	hp	Offroad LF	Note	CO g/hp-hr (Offroad)	NOx g/hp-hr (Offroad)	PM10 g/hp-hr (Offroad)	PM2.5 g/hp-hr (Offroad)	SOx g/hp-hr (Offroad)	VOC g/hp-hr (Offroad)	CO lb/hr (Offroad) or lb/mile (Onroad)	NOx lb/hr (Offroad) or lb/mile (Onroad)	PM10 lb/hr (Offroad) or lb/mile (Onroad)	PM2.5 lb/hr (Offroad) or lb/mile (Onroad)	SOx lb/hr (Offroad) or lb/mile (Onroad)	VOC lb/hr (Offroad) or lb/mile (Onroad)
												25% Compliance with MM AQ-3					
Site 2 (New)												NOx, VOC, CO, PM - Offroad Equipment Only					
Construction																	
	Pick-up	Passenger Vehicles On-Road	200			3.7479	0.4165	0.0395	0.0248	0.0049	0.4146	8.263E-3	9.181E-4	8.698E-5	5.478E-5	1.077E-5	9.140E-4
	Dozer	Rubber Tired Dozers	160	0.59	(3)	3.8160	7.8553	0.4552	0.4188	0.0064	1.0534	0.7881	1.4556	0.0825	0.0759	0.0013	0.1899
	Loader	Rubber Tired Loaders	215	0.54	(2)	1.4144	5.1598	0.1892	0.1740	0.0056	0.5018	0.3620	1.2727	0.0459	0.0422	0.0014	0.1277
	Backhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Trackhoe	Tractors/Loaders/Backhoes	160	0.55	(2)	2.7715	4.5457	0.2648	0.2436	0.0054	0.5733	0.5377	0.8753	0.0492	0.0453	0.0010	0.1072
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1330
	Boom-Truck	On-Highway HHDDT	479		(6)	5.4225	17.3367	0.8304	0.7261	0.0187	1.3796	1.195E-2	3.822E-2	1.831E-3	1.601E-3	4.131E-5	3.042E-3
	Water Truck	Delivery Trucks On-Road	175		(2)	8.3631	9.3551	0.3407	0.2914	0.0123	1.1746	1.844E-2	2.062E-2	7.512E-4	6.423E-4	2.701E-5	2.590E-3
	Man-Lift	Aerial Lifts	160	0.46	(3)	4.1144	7.2548	0.4218	0.3881	0.0079	0.9241	0.6508	1.0618	0.0603	0.0554	0.0013	0.1323
	Compactor	Plate Compactor	160	0.43	(3)	3.7795	7.2467	0.3971	0.3653	0.0073	0.8907	0.5703	0.9916	0.0535	0.0492	0.0011	0.1199
	Fork Lift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3061	0.0263	0.0242	0.0003	0.0480
	Welding Rigs	Welders	160	0.45	(3)	3.1763	6.2761	0.3396	0.3124	0.0064	0.7677	0.5042	0.9222	0.0492	0.0452	0.0010	0.1108
	Air Compressor	Air Compressors	112	0.48	(1)	2.6386	4.7066	0.4292	0.3949	0.0043	0.7983	0.3127	0.5490	0.0447	0.0411	0.0005	0.0855
Tanks (6-250,000 bbl)																	
	Diesel Generator	Other Construction Equip.	45	0.74	(2)	3.5604	3.7634	0.3480	0.3202	0.0049	1.3691	0.2614	0.2763	0.0255	0.0235	0.0004	0.0857
	Crane	Cranes	365	0.43	(1)	1.3976	3.7389	0.1445	0.1330	0.0037	0.3843	0.4836	1.2937	0.0500	0.0460	0.0013	0.1412
	Forklift	Forklifts	105	0.3	(2)	2.8260	4.4066	0.4311	0.3966	0.0046	0.7576	0.1963	0.3061	0.0263	0.0242	0.0003	0.0480
	Manlift	Aerial Lifts	160	0.46	(3)	4.1144	7.2548	0.4218	0.3881	0.0079	0.9241	0.6508	1.0618	0.0603	0.0554	0.0013	0.1323

Exhibit A.4 Site Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H Exhibit A.4 Site Construction Emissions (continued)

Equipment		Equipment Category	Use/Day (hr/day)	mph	Onsite Mile/day/ vehicle	Days / Week	Equip. Weeks	CO Emissions (tons)	NOx Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SOx Emissions (tons)	VOC Emissions (tons)
Site 2 (New)				**75 % Compliance with MM AQ 4 -->**				0%	11%	47%	47%	0%	0%
Construction													
	Pick-up	Passenger Vehicles On-Road		30	15	6	346	0.12	0.01	0.001	0.001	0.000	0.014
	Dozer	Rubber Tired Dozers	10			6	-	-	-	-	-	-	-
	Loader	Rubber Tired Loaders	10			6	-	-	-	-	-	-	-
	Backhoe	Tractors/Loaders/Backhoes	10			6	84	1.30	1.89	0.063	0.058	0.003	0.259
	Trackhoe	Tractors/Loaders/Backhoes	10			6	-	-	-	-	-	-	-
	Crane	Cranes	10			6	40	0.56	1.33	0.030	0.028	0.001	0.153
	Boom-Truck	On-Highway HHDDT		30	15	6	-	-	-	-	-	-	-
	Water Truck	Delivery Trucks On-Road			15	6	42	0.03	0.04	0.001	0.001	0.000	0.005
	Man-Lift	Aerial Lifts	5			6	-	-	-	-	-	-	-
	Compactor	Plate Compactor	10			6	-	-	-	-	-	-	-
	Fork Lift	Forklifts	10			6	83	0.47	0.65	0.033	0.030	0.001	0.114
	Welding Rigs	Welders	10			6	190	2.75	4.50	0.141	0.130	0.006	0.605
	Air Compressor	Air Compressors	5			6	82	0.37	0.58	0.028	0.026	0.001	0.101
Tanks (6-250,000 bbl)													
	Diesel Generator	Other Construction Equip.	5			6	96	0.36	0.34	0.019	0.017	0.000	0.118
	Crane	Cranes	10			6	168	2.33	5.59	0.127	0.117	0.006	0.681
	Forklift	Forklifts	10			6	9	0.05	0.07	0.004	0.003	0.000	0.012
	Manlift	Aerial Lifts	5			6	16	0.15	0.22	0.007	0.007	0.000	0.030
					Fugitive Dust - Mitigated				**Fugitive Dust**	**1.91**	**0.40**		

Exhibit A.4 (continued) Proposed Project Construction Activities Summary of Average Daily Mitigated POV Emissions (Phase 2).									
	Start	**End**	**Net Workdays**	**ROG (lb/day)**	**CO (lb/day)**	**NOx (lb/day)**	**SO2 (lb/day)**	**PM10 (lb/day)**	**PM2.5 (lb/day)**
Total	8/3/2010	5/27/2012	401	**109.44**	**418.98**	**297.59**	**0.65**	**14.87**	**12.13**
Building	8/3/2010	2/25/2011	172						
Building Off Road Diesel				3.79	11.73	17.78	0	0.62	0.57
Building	8/25/2011	5/27/2012	229						
Building Off Road Diesel				3.79	11.73	17.78	0	0.62	0.57
Coating	8/25/2011	4/22/2012	199						
Architectural Coating				72.2	0	0	0	0	0
Trenching	8/25/2011	4/29/2012	205						
Trenching Off Road Diesel				2.06	8.22	17.69	0	0.44	0.4
Offroad Total				81.84	31.68	53.25	0	1.68	1.54
Vendor and Worker Trips				27.6	387.3	244.34	0.65	13.19	10.59
Note: All start and end dates have been moved into the future approximately12 months, except the first building was moved 18 months into the future.									

Exhibit A.4 (continued) Proposed Project Construction Activities Summary of Average Daily Mitigated POV Emissions (Phase 2).													
	Start	**End**	**Net Workdays**	**2010**	**2011**	**2012**	**Years**	**ROG (tons/year)**	**CO (tons/year)**	**NOx (tons/year)**	**SO2 (tons/year)**	**PM10 (tons/year)**	**PM2.5 (tons/year)**
Total	8/3/2010	5/27/2012	401	125	151	125	2010	**0.24**	**0.73**	**1.11**	**-**	**0.04**	**0.04**
							2011	**4.16**	**1.32**	**2.27**	**-**	**0.07**	**0.06**
							2012	**3.76**	**1.15**	**2.00**	**-**	**0.06**	**0.06**
Building	8/3/2010	2/25/2011					2010	0.24	0.73	1.11	-	0.04	0.04
							2011	0.09	0.27	0.42	-	0.01	0.01
Building Off Road Diesel			172	125	47	-	2012	-	-	-	-	-	-
Building	8/25/2011	5/27/2012					2010	-	-	-	-	-	-
							2011	0.20	0.61	0.93	-	0.03	0.03
Building Off Road Diesel			229	-	104	125	2012	0.24	0.73	1.11	-	0.04	0.04
Coating	8/25/2011	4/22/2012					2010	-	-	-	-	-	-
							2011	3.77	-	-	-	-	-
Architectural Coating			199	-	104	95	2012	3.42	-	-	-	-	-
Trenching	8/25/2011	4/29/2012					2010	-	-	-	-	-	-
							2011	0.11	0.43	0.92	-	0.02	0.02
Trenching Off Road Diesel			205	-	104	101	2012	0.10	0.41	0.89	-	0.02	0.02
Offroad - Total Project tons							Total	8.16	3.19	5.38	-	0.17	0.16
Offroad - Total Annual tpy							2010	0.24	0.73	1.11	-	0.04	0.04
							2011	4.16	1.32	2.27	-	0.07	0.06
							2012	3.76	1.15	2.00	-	0.06	0.06

Exhibit A.5 Vessel Construction Emissions - Adapted from PLAMT SEIS/SEIR - Table H.1.PP.Mit.Const-12.													
Mode	**Equipment**	**NOx Emissions (lb/yr)**	**CO Emissions (lb/yr)**	**ROG Emissions (lb/yr)**	**PM10 Emissions (lb/yr)**	**PM2.5 Emissions (lb/yr)**	**SO2 Emissions (lb/yr)**	**NOx Emissions (tons/yr)**	**CO Emissions (tons/yr)**	**ROG Emissions (tons/yr)**	**PM10 Emissions (tons/yr)**	**PM2.5 Emissions (tons/yr)**	**SO2 Emissions (tons/yr)**
Cruising	Main Engines	197	16	7	3	3	9	0.10	0.01	0.00	0.00	0.00	0.00
Cruising	Aux Generator	1,086	85	31	22	21	71	0.54	0.04	0.00	0.00	0.00	0.00
Maneuvering	Main Engines	74	6	2	1	1	4	0.04	0.003	0.000	0.000	0.000	0.000
Maneuvering	Aux Generator	536	42	16	10	9	35	0.27	0.02	0.00	0.00	0.000	0.00
Boiler Warm-up	Boiler	27	7	0	3	2	38	0.01	0.00	0.00	0.00	0.00	0.00
Berth Operations	Boiler	74	9	2	12	8	505	0.04	0.00	0.00	0.00	0.000	0.00
Berth Operations	Aux Generator	1,172	93	33	22	19	77	0.59	0.05	0.00	0.00	0.000	0.00
Propulsion	TOTAL	271	22	9	4	4	13	0.14	0.01	0.00	0.00	0.00	0.00
Non-Propulsion	TOTAL	2,894	236	82	69	59	726	1.45	0.12	0.00	0.00	0.00	0.00
Total Emissions		**3,165**	**258**	**91**	**73**	**63**	**739**	**1.58**	**0.13**	**0.00**	**0.00**	**0.00**	**0.00**

Exhibit A.6 Haul Truck Construction Emissions - Adapted from PLAMT SEIS/SEIR Table H.1.PP.Mit.Const-17.

	Pounds Per Day						
Construction Activity/Equipment Type	*VOC*	*CO*	*NOx*	*SOx*	*PM*	*PM10*	*PM2.5*
Haul Truck - Base	4.4	12.4	40.4	0.06	1.5	1.5	1.3
	Tons						
	VOC	*CO*	*NOx*	*SOx*	*PM*	*PM10*	*PM2.5*
Haul Truck - Base (1)	0.34	0.95	3.10	0.0045	0.12	0.12	0.10
(1) Assume total project length of 30 months, 6 working days per week, less holidays							

Exhibit A.7 - Emissions Factors

SCAB Fleet Average Emission Factors (Diesel)

http://www.aqmd.gov/cega/handbook/offroad/offroadEF07_25.xls

2010	Air Basin	SC

SCAQMD Load Factors		SCAQMD EFs		(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Equipment	**LFa.**	**Equipment**	**MaxHP**	**VOC**	**CO**	**NOX**	**SOX**	**PM**	**CO2**	**CH4**
Aerial Lifts	0.505	Aerial Lifts	15	0.0104	0.0529	0.0662	0.0001	0.0037	8.7	0.0009
Aerial Lifts	0.505		25	0.0210	0.0577	0.1013	0.0001	0.0065	11.0	0.0019
Aerial Lifts	0.505		50	0.0756	0.1937	0.1984	0.0003	0.0189	19.6	0.0068
Aerial Lifts	0.505		120	0.0702	0.2501	0.4502	0.0004	0.0361	38.1	0.0063
Aerial Lifts	0.505		500	0.1506	0.5801	1.9198	0.0021	0.0598	213	0.0136
Aerial Lifts	0.505		750	0.2803	1.0486	3.5605	0.0039	0.1096	385	0.0253
Aerial Lifts	0.505	Aerial Lifts Composite		0.0670	0.2093	0.3600	0.0004	0.0248	34.7	0.0060
Air Compressors	0.480	Air Compress	15	0.0144	0.0513	0.0838	0.0001	0.0061	7.2	0.0013
Air Compressors	0.480		25	0.0325	0.0847	0.1397	0.0002	0.0098	14.4	0.0029
Air Compressors	0.480		50	0.1163	0.2813	0.2386	0.0003	0.0265	22.3	0.0105
Air Compressors	0.480		120	0.1014	0.3351	0.5977	0.0006	0.0545	47.0	0.0091
Air Compressors	0.480		175	0.1274	0.5113	1.0082	0.0010	0.0568	88.5	0.0115
Air Compressors	0.480		250	0.1225	0.3413	1.3983	0.0015	0.0462	131	0.0111
Air Compressors	0.480		500	0.1943	0.6778	2.2062	0.0023	0.0752	232	0.0175
Air Compressors	0.480		750	0.3054	1.0476	3.5002	0.0036	0.1179	358	0.0276
Air Compressors	0.480		1000	0.5203	1.8591	6.0195	0.0049	0.1809	486	0.0469
Air Compressors	0.480	Air Compressors Composite		0.1120	0.3613	0.7320	0.0007	0.0526	63.6	0.0101
Bore/Drill Rigs	0.750	Bore/Drill Rig	15	0.0120	0.0632	0.0754	0.0002	0.0031	10.3	0.0011
Bore/Drill Rigs	0.750		25	0.0196	0.0660	0.1257	0.0002	0.0065	16.0	0.0018
Bore/Drill Rigs	0.750		50	0.0545	0.2505	0.2820	0.0004	0.0194	31.0	0.0049
Bore/Drill Rigs	0.750		120	0.0722	0.4812	0.6155	0.0009	0.0456	77.1	0.0065
Bore/Drill Rigs	0.750		175	0.0930	0.7543	0.9148	0.0016	0.0481	141	0.0084
Bore/Drill Rigs	0.750		250	0.0957	0.3460	1.1847	0.0021	0.0384	188	0.0086
Bore/Drill Rigs	0.750		500	0.1488	0.5566	1.7054	0.0031	0.0614	311	0.0134
Bore/Drill Rigs	0.750		750	0.2996	1.0997	3.4821	0.0062	0.1231	615	0.0270
Bore/Drill Rigs	0.750		1000	0.5360	1.7074	8.3092	0.0093	0.2078	928	0.0484
Bore/Drill Rigs	0.750	Bore/Drill Rigs Composite		0.1052	0.5146	1.1331	0.0017	0.0498	165	0.0095
Cement and Mortar Mixers	0.560	Cement and M	15	0.0079	0.0388	0.0505	0.0001	0.0029	6.3	0.0007
Cement and Mortar Mixers	0.560		25	0.0346	0.0942	0.1633	0.0002	0.0107	17.6	0.0031
Cement and Mortar Mixers	0.560	Cement and Mortar Mixers (		0.0101	0.0434	0.0599	0.0001	0.0035	7.2	0.0009
Concrete/Industrial Saws	0.730	Concrete/Indu	25	0.0200	0.0678	0.1279	0.0002	0.0063	16.5	0.0018
Concrete/Industrial Saws	0.730		50	0.1231	0.3210	0.3070	0.0004	0.0301	30.2	0.0111
Concrete/Industrial Saws	0.730		120	0.1342	0.4976	0.8601	0.0009	0.0719	74.1	0.0121
Concrete/Industrial Saws	0.730		175	0.1927	0.8786	1.6459	0.0018	0.0864	160	0.0174
Concrete/Industrial Saws	0.730	Concrete/Industrial Saws C		0.1270	0.4273	0.6566	0.0007	0.0552	58.5	0.0115
Cranes	0.430	Cranes	50	0.1284	0.3166	0.2547	0.0003	0.0289	23.2	0.0116
Cranes	0.430		120	0.1117	0.3723	0.6542	0.0006	0.0602	50.1	0.0101
Cranes	0.430		175	0.1211	0.4880	0.9302	0.0009	0.0538	80.3	0.0109
Cranes	0.430		250	0.1243	0.3464	1.2372	0.0013	0.0470	112	0.0112
Cranes	0.430		500	0.1821	0.6625	1.7722	0.0018	0.0685	180	0.0164
Cranes	0.430		750	0.3082	1.1113	3.0564	0.0030	0.1166	303	0.0278
Cranes	0.430		9999	1.0894	4.1317	12.1879	0.0098	0.3792	971	0.0983
Cranes	0.430	Cranes Composite		0.1594	0.5431	1.4515	0.0014	0.0642	129	0.0144
Crawler Tractors	0.590	Crawler Tract	50	0.1446	0.3520	0.2780	0.0003	0.0320	24.9	0.0131
Crawler Tractors	0.590		120	0.1551	0.5018	0.9038	0.0008	0.0819	65.8	0.0140
Crawler Tractors	0.590		175	0.1941	0.7597	1.4788	0.0014	0.0856	121	0.0175
Crawler Tractors	0.590		250	0.2051	0.5743	1.9440	0.0019	0.0784	166	0.0185
Crawler Tractors	0.590		500	0.2913	1.1931	2.7255	0.0025	0.1101	259	0.0263
Crawler Tractors	0.590		750	0.5240	2.1290	4.9881	0.0047	0.1989	465	0.0473
Crawler Tractors	0.590		1000	0.7980	3.3726	8.5998	0.0066	0.2810	658	0.0720
Crawler Tractors	0.590	Crawler Tractors Composite		0.1861	0.6409	1.3854	0.0013	0.0854	114	0.0168
Crushing/Proc. Equipment	0.780	Crushing/Proc	50	0.2271	0.5592	0.4700	0.0006	0.0520	44.0	0.0205
Crushing/Proc. Equipment	0.780		120	0.1760	0.5956	1.0382	0.0010	0.0960	83.1	0.0159
Crushing/Proc. Equipment	0.780		175	0.2367	0.9736	1.8607	0.0019	0.1068	167	0.0214
Crushing/Proc. Equipment	0.780		250	0.2243	0.6225	2.5465	0.0028	0.0841	245	0.0202
Crushing/Proc. Equipment	0.780		500	0.3091	1.0542	3.4510	0.0037	0.1187	374	0.0279
Crushing/Proc. Equipment	0.780		750	0.4956	1.6226	5.6506	0.0059	0.1900	589	0.0447
Crushing/Proc. Equipment	0.780		9999	1.3820	4.8014	16.0752	0.0131	0.4812	1,308	0.1247
Crushing/Proc. Equipment	0.780	Crushing/Proc. Equipment (		0.2152	0.7260	1.4394	0.0015	0.0935	132	0.0194
Dumpers/Tenders	0.380	Dumpers/Ten	25	0.0108	0.0336	0.0645	0.0001	0.0036	7.6	0.0010
Dumpers/Tenders	0.380	Dumpers/Tenders Composi		0.0108	0.0336	0.0645	0.0001	0.0036	7.6	0.0010

Exhibit A.7 - Emissions Factors

SCAB Fleet Average Emission Factors (Diesel)

http://www.aqmd.gov/cega/handbook/offroad/offroadEF07_25.xls

2010	Air Basin	SC

SCAQMD Load Factors		SCAQMD EFs		(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Equipment	**LFa.**	**Equipment**	**MaxHP**	**VOC**	**CO**	**NOX**	**SOX**	**PM**	**CO2**	**CH4**
Excavators	0.580	Excavators	25	0.0199	0.0677	0.1261	0.0002	0.0057	16.4	0.0018
Excavators	0.580		50	0.1131	0.3145	0.2638	0.0003	0.0276	25.0	0.0102
Excavators	0.580		120	0.1398	0.5318	0.8402	0.0009	0.0781	73.6	0.0126
Excavators	0.580		175	0.1465	0.6701	1.1143	0.0013	0.0663	112	0.0132
Excavators	0.580		250	0.1451	0.3934	1.4935	0.0018	0.0519	159	0.0131
Excavators	0.580		500	0.1984	0.6161	1.9285	0.0023	0.0711	234	0.0179
Excavators	0.580		750	0.3313	1.0196	3.3023	0.0039	0.1198	387	0.0299
Excavators	0.580	Excavators Composite		0.1483	0.5581	1.1502	0.0013	0.0638	120	0.0134
Forklifts	0.300	Forklifts	50	0.0666	0.1824	0.1530	0.0002	0.0163	14.7	0.0060
Forklifts	0.300		120	0.0601	0.2243	0.3497	0.0004	0.0342	31.2	0.0054
Forklifts	0.300		175	0.0738	0.3306	0.5540	0.0006	0.0337	56.1	0.0067
Forklifts	0.300		250	0.0652	0.1707	0.7163	0.0009	0.0227	77.1	0.0059
Forklifts	0.300		500	0.0868	0.2343	0.8909	0.0011	0.0307	111	0.0078
Forklifts	0.300	Forklifts Composite		0.0686	0.2319	0.5161	0.0006	0.0281	54.4	0.0062
Generator Sets	0.740	Generator Se	15	0.0172	0.0726	0.1154	0.0002	0.0069	10.2	0.0016
Generator Sets	0.740		25	0.0300	0.1033	0.1705	0.0002	0.0107	17.6	0.0027
Generator Sets	0.740		50	0.1117	0.2904	0.3070	0.0004	0.0284	30.6	0.0101
Generator Sets	0.740		120	0.1395	0.5054	0.9075	0.0009	0.0714	77.9	0.0126
Generator Sets	0.740		175	0.1672	0.7471	1.4780	0.0016	0.0721	142	0.0151
Generator Sets	0.740		250	0.1618	0.5018	2.0720	0.0024	0.0618	213	0.0146
Generator Sets	0.740		500	0.2305	0.8858	2.9974	0.0033	0.0917	337	0.0208
Generator Sets	0.740		750	0.3838	1.4300	4.9646	0.0055	0.1502	544	0.0346
Generator Sets	0.740		9999	1.0080	3.6008	12.1384	0.0105	0.3600	1,049	0.0909
Generator Sets	0.740	Generator Sets Composite		0.0961	0.3293	0.6440	0.0007	0.0396	61.0	0.0087
Graders	0.575	Graders	50	0.1400	0.3584	0.2961	0.0004	0.0323	27.5	0.0126
Graders	0.575		120	0.1553	0.5459	0.9268	0.0009	0.0849	75.0	0.0140
Graders	0.575		175	0.1743	0.7409	1.3532	0.0014	0.0783	124	0.0157
Graders	0.575		250	0.1761	0.4934	1.7904	0.0019	0.0662	172	0.0159
Graders	0.575		500	0.2149	0.7523	2.1198	0.0023	0.0807	229	0.0194
Graders	0.575		750	0.4580	1.5877	4.6098	0.0049	0.1729	486	0.0413
Graders	0.575	Graders Composite		0.1723	0.6314	1.4338	0.0015	0.0753	133	0.0155
Off-Highway Tractors	0.465	Off-Highway	120	0.2457	0.7439	1.4200	0.0011	0.1255	93.7	0.0222
Off-Highway Tractors	0.465		175	0.2326	0.8561	1.7665	0.0015	0.1014	130	0.0210
Off-Highway Tractors	0.465		250	0.1881	0.5347	1.7050	0.0015	0.0735	130	0.0170
Off-Highway Tractors	0.465		750	0.7400	3.5496	6.8440	0.0057	0.2854	568	0.0668
Off-Highway Tractors	0.465		1000	1.1197	5.5155	11.4633	0.0082	0.4009	814	0.1010
Off-Highway Tractors	0.465	Off-Highway Tractors Comp		0.2368	0.8385	1.9897	0.0017	0.0974	151	0.0214
Off-Highway Trucks	0.410	Off-Highway	175	0.1732	0.7625	1.2796	0.0014	0.0771	125	0.0156
Off-Highway Trucks	0.410		250	0.1639	0.4301	1.6150	0.0019	0.0574	167	0.0148
Off-Highway Trucks	0.410		500	0.2492	0.7542	2.3188	0.0027	0.0872	272	0.0225
Off-Highway Trucks	0.410		750	0.4069	1.2210	3.8814	0.0044	0.1436	442	0.0367
Off-Highway Trucks	0.410		1000	0.6440	2.0615	7.3260	0.0063	0.2219	625	0.0581
Off-Highway Trucks	0.410	Off-Highway Trucks Compo		0.2480	0.7429	2.3885	0.0027	0.0875	260	0.0224
Other Construction Equipment	0.620	Other Constru	15	0.0118	0.0617	0.0737	0.0002	0.0030	10.1	0.0011
Other Construction Equipment	0.620		25	0.0162	0.0545	0.1039	0.0002	0.0053	13.2	0.0015
Other Construction Equipment	0.620		50	0.1033	0.2930	0.2787	0.0004	0.0263	28.0	0.0093
Other Construction Equipment	0.620		120	0.1320	0.5419	0.8649	0.0009	0.0740	80.9	0.0119
Other Construction Equipment	0.620		175	0.1168	0.5901	0.9927	0.0012	0.0543	107	0.0105
Other Construction Equipment	0.620		500	0.1705	0.6068	1.9821	0.0025	0.0678	254	0.0154
Other Construction Equipment	0.620	Other Construction Equipm		0.1056	0.4108	1.0117	0.0013	0.0442	123	0.0095
Other General Industrial Equipmen	0.620	Other Genera	15	0.0066	0.0391	0.0466	0.0001	0.0017	6.4	0.0006
Other General Industrial Equipmen	0.620		25	0.0186	0.0632	0.1177	0.0002	0.0054	15.3	0.0017
Other General Industrial Equipmen	0.620		50	0.1281	0.3073	0.2413	0.0003	0.0285	21.7	0.0116
Other General Industrial Equipmen	0.620		120	0.1459	0.4647	0.8218	0.0007	0.0795	62.0	0.0132
Other General Industrial Equipmen	0.620		175	0.1516	0.5816	1.1364	0.0011	0.0676	95.9	0.0137
Other General Industrial Equipmen	0.620		250	0.1400	0.3676	1.5016	0.0015	0.0509	136	0.0126
Other General Industrial Equipmen	0.620		500	0.2500	0.8031	2.6018	0.0026	0.0919	265	0.0226
Other General Industrial Equipmen	0.620		750	0.4153	1.3236	4.4083	0.0044	0.1538	437	0.0375
Other General Industrial Equipmen	0.620		1000	0.6374	2.2063	7.1530	0.0056	0.2212	560	0.0575
Other General Industrial Equipment	0.620	Other General Industrial Eq		0.1847	0.5948	1.6649	0.0016	0.0740	152	0.0167
Other Material Handling Equipment	0.620	Other Materia	50	0.1773	0.4246	0.3355	0.0004	0.0395	30.3	0.0160
Other Material Handling Equipment	0.620		120	0.1417	0.4524	0.8014	0.0007	0.0772	60.7	0.0128
Other Material Handling Equipment	0.620		175	0.1914	0.7367	1.4429	0.0014	0.0856	122	0.0173
Other Material Handling Equipment	0.620		250	0.1481	0.3917	1.6024	0.0016	0.0542	145	0.0134
Other Material Handling Equipment	0.620		500	0.1782	0.5784	1.8750	0.0019	0.0660	192	0.0161
Other Material Handling Equipment	0.620		9999	0.8390	2.9174	9.4509	0.0073	0.2912	741	0.0757
Other Material Handling Equipment	0.620	Other Material Handling Eq		0.1773	0.5556	1.6150	0.0015	0.0715	141	0.0160

Exhibit A.7 - Emissions Factors

SCAB Fleet Average Emission Factors (Diesel)

http://www.aqmd.gov/cega/handbook/offroad/offroadEF07_25.xls

		2010	Air Basin	SC						
SCAQMD Load Factors		SCAQMD EFs		(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Equipment	**LFa.**	**Equipment**	**MaxHP**	**VOC**	**CO**	**NOX**	**SOX**	**PM**	**CO2**	**CH4**
Pavers	0.620	Pavers	25	0.0278	0.0845	0.1603	0.0002	0.0092	18.7	0.0025
Pavers	0.620		50	0.1624	0.3860	0.3110	0.0004	0.0356	28.0	0.0147
Pavers	0.620		120	0.1638	0.5223	0.9693	0.0008	0.0853	69.2	0.0148
Pavers	0.620		175	0.2049	0.7959	1.6028	0.0014	0.0903	128	0.0185
Pavers	0.620		250	0.2426	0.7011	2.3337	0.0022	0.0953	194	0.0219
Pavers	0.620		500	0.2622	1.1661	2.5319	0.0023	0.1023	233	0.0237
Pavers	0.620	Pavers Composite		0.1774	0.5644	0.9868	0.0009	0.0709	77.9	0.0160
Paving Equipment	0.530	Paving Equip	25	0.0155	0.0521	0.0993	0.0002	0.0051	12.6	0.0014
Paving Equipment	0.530		50	0.1384	0.3277	0.2654	0.0003	0.0303	23.9	0.0125
Paving Equipment	0.530		120	0.1282	0.4084	0.7600	0.0006	0.0668	54.5	0.0116
Paving Equipment	0.530		175	0.1599	0.6208	1.2577	0.0011	0.0704	101	0.0144
Paving Equipment	0.530		250	0.1506	0.4363	1.4619	0.0014	0.0592	122	0.0136
Paving Equipment	0.530	Paving Equipment Composi		0.1336	0.4478	0.8963	0.0008	0.0629	68.9	0.0121
Plate Compactors	0.430	Plate Compac	15	0.0050	0.0263	0.0317	0.0001	0.0015	4.3	0.0005
Plate Compactors	0.430	Plate Compactors Composi		0.0050	0.0263	0.0317	0.0001	0.0015	4.3	0.0005
Pressure Washers	0.300	Pressure Was	15	0.0083	0.0348	0.0553	0.0001	0.0033	4.9	0.0007
Pressure Washers	0.300		25	0.0122	0.0419	0.0691	0.0001	0.0043	7.1	0.0011
Pressure Washers	0.300		50	0.0413	0.1143	0.1388	0.0002	0.0115	14.3	0.0037
Pressure Washers	0.300		120	0.0388	0.1487	0.2674	0.0003	0.0193	24.1	0.0035
Pressure Washers	0.300	Pressure Washers Compos		0.0199	0.0666	0.0989	0.0001	0.0070	9.4	0.0018
Pumps	0.740	Pumps	15	0.0148	0.0528	0.0862	0.0001	0.0062	7.4	0.0013
Pumps	0.740		25	0.0439	0.1142	0.1884	0.0002	0.0133	19.5	0.0040
Pumps	0.740		50	0.1339	0.3428	0.3479	0.0004	0.0333	34.3	0.0121
Pumps	0.740		120	0.1441	0.5136	0.9216	0.0009	0.0744	77.9	0.0130
Pumps	0.740		175	0.1709	0.7489	1.4815	0.0016	0.0742	140	0.0154
Pumps	0.740		250	0.1593	0.4846	1.9941	0.0023	0.0609	201	0.0144
Pumps	0.740		500	0.2450	0.9411	3.1080	0.0034	0.0973	345	0.0221
Pumps	0.740		750	0.4167	1.5559	5.2721	0.0057	0.1631	571	0.0376
Pumps	0.740		9999	1.3269	4.8008	15.8590	0.0136	0.4723	1,355	0.1197
Pumps	0.740	Pumps Composite		0.0936	0.3096	0.5545	0.0006	0.0393	49.6	0.0084
Rollers	0.575	Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0019	6.3	0.0007
Rollers	0.575		25	0.0164	0.0551	0.1049	0.0002	0.0054	13.3	0.0015
Rollers	0.575		50	0.1270	0.3169	0.2753	0.0003	0.0292	26.0	0.0115
Rollers	0.575		120	0.1201	0.4177	0.7383	0.0007	0.0641	59.0	0.0108
Rollers	0.575		175	0.1478	0.6270	1.2022	0.0012	0.0659	108	0.0133
Rollers	0.575		250	0.1542	0.4540	1.6232	0.0017	0.0603	153	0.0139
Rollers	0.575		500	0.1987	0.7785	2.0882	0.0022	0.0783	219	0.0179
Rollers	0.575	Rollers Composite		0.1176	0.4212	0.7749	0.0008	0.0547	67.1	0.0106
Rough Terrain Forklifts	0.475	Rough Terrai	50	0.1590	0.4186	0.3558	0.0004	0.0377	33.9	0.0143
Rough Terrain Forklifts	0.475		120	0.1213	0.4447	0.7326	0.0007	0.0676	62.4	0.0109
Rough Terrain Forklifts	0.475		175	0.1640	0.7302	1.2875	0.0014	0.0749	125	0.0148
Rough Terrain Forklifts	0.475		250	0.1523	0.4270	1.6632	0.0019	0.0567	171	0.0137
Rough Terrain Forklifts	0.475		500	0.2097	0.6871	2.1987	0.0025	0.0788	257	0.0189
Rough Terrain Forklifts	0.475	Rough Terrain Forklifts Con		0.1272	0.4766	0.7988	0.0008	0.0678	70.3	0.0115
Rubber Tired Dozers	0.590	Rubber Tired	175	0.2398	0.8686	1.7881	0.0015	0.1036	129	0.0216
Rubber Tired Dozers	0.590		250	0.2776	0.7758	2.4482	0.0021	0.1071	183	0.0250
Rubber Tired Dozers	0.590		500	0.3621	1.7411	3.2071	0.0026	0.1370	265	0.0327
Rubber Tired Dozers	0.590		750	0.5457	2.6075	4.9024	0.0040	0.2071	399	0.0492
Rubber Tired Dozers	0.590		1000	0.8464	4.1786	8.4813	0.0060	0.3018	592	0.0764
Rubber Tired Dozers	0.590	Rubber Tired Dozers Comp		0.3379	1.4127	2.9891	0.0025	0.1288	239	0.0305
Rubber Tired Loaders	0.540	Rubber Tired	25	0.0206	0.0697	0.1314	0.0002	0.0064	16.9	0.0019
Rubber Tired Loaders	0.540		50	0.1560	0.4005	0.3333	0.0004	0.0361	31.1	0.0141
Rubber Tired Loaders	0.540		120	0.1206	0.4268	0.7227	0.0007	0.0660	58.9	0.0109
Rubber Tired Loaders	0.540		175	0.1476	0.6326	1.1513	0.0012	0.0664	106	0.0133
Rubber Tired Loaders	0.540		250	0.1493	0.4210	1.5357	0.0017	0.0563	149	0.0135
Rubber Tired Loaders	0.540		500	0.2172	0.7648	2.1684	0.0023	0.0819	237	0.0196
Rubber Tired Loaders	0.540		750	0.4484	1.5625	4.5660	0.0049	0.1700	486	0.0405
Rubber Tired Loaders	0.540		1000	0.6154	2.2308	7.1368	0.0060	0.2156	594	0.0555
Rubber Tired Loaders	0.540	Rubber Tired Loaders Com		0.1440	0.5078	1.1537	0.0012	0.0651	109	0.0130
Scrapers	0.660	Scrapers	120	0.2236	0.7169	1.3034	0.0011	0.1177	93.9	0.0202
Scrapers	0.660		175	0.2391	0.9290	1.8284	0.0017	0.1053	148	0.0216
Scrapers	0.660		250	0.2618	0.7368	2.4818	0.0024	0.1006	209	0.0236
Scrapers	0.660		500	0.3650	1.5182	3.4250	0.0032	0.1386	321	0.0329
Scrapers	0.660		750	0.6328	2.6115	6.0373	0.0056	0.2413	555	0.0571
Scrapers	0.660	Scrapers Composite		0.3202	1.2424	2.9078	0.0027	0.1256	262	0.0289

Exhibit A.7 - Emissions Factors

SCAB Fleet Average Emission Factors (Diesel)

http://www.aqmd.gov/cega/handbook/offroad/offroadEF07_25.xls

		2010	Air Basin	SC						
SCAQMD Load Factors		SCAQMD EFs		(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Equipment	**LFa.**	**Equipment**	**MaxHP**	**VOC**	**CO**	**NOX**	**SOX**	**PM**	**CO2**	**CH4**
Signal Boards	0.820	Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0017	6.2	0.0006
Signal Boards	0.820		50	0.1492	0.3827	0.3689	0.0005	0.0364	36.2	0.0135
Signal Boards	0.820		120	0.1495	0.5380	0.9446	0.0009	0.0792	80.2	0.0135
Signal Boards	0.820		175	0.1907	0.8437	1.6203	0.0017	0.0846	155	0.0172
Signal Boards	0.820		250	0.2049	0.6138	2.5094	0.0029	0.0789	255	0.0185
Signal Boards	0.820	Signal Boards Composite		0.0224	0.0953	0.1615	0.0002	0.0091	16.7	0.0020
Skid Steer Loaders	0.515	Skid Steer Lo	25	0.0249	0.0700	0.1252	0.0002	0.0079	13.8	0.0022
Skid Steer Loaders	0.515		50	0.0785	0.2507	0.2463	0.0003	0.0217	25.5	0.0071
Skid Steer Loaders	0.515		120	0.0607	0.2822	0.4131	0.0005	0.0355	42.8	0.0055
Skid Steer Loaders	0.515	Skid Steer Loaders Compos		0.0692	0.2489	0.2919	0.0004	0.0252	30.3	0.0062
Surfacing Equipment	0.490	Surfacing Equ	50	0.0589	0.1520	0.1451	0.0002	0.0142	14.1	0.0053
Surfacing Equipment	0.490		120	0.1192	0.4334	0.7683	0.0007	0.0624	63.8	0.0108
Surfacing Equipment	0.490		175	0.1071	0.4787	0.9169	0.0010	0.0472	85.8	0.0097
Surfacing Equipment	0.490		250	0.1254	0.3883	1.3783	0.0015	0.0494	135	0.0113
Surfacing Equipment	0.490		500	0.1854	0.7785	2.0517	0.0022	0.0741	221	0.0167
Surfacing Equipment	0.490		750	0.2960	1.2171	3.2929	0.0035	0.1173	347	0.0267
Surfacing Equipment	0.490	Surfacing Equipment Comp		0.1550	0.6164	1.5685	0.0017	0.0606	166	0.0140
Sweepers/Scrubbers	0.680	Sweepers/Sc	15	0.0124	0.0729	0.0870	0.0002	0.0033	11.9	0.0011
Sweepers/Scrubbers	0.680		25	0.0239	0.0808	0.1524	0.0002	0.0075	19.6	0.0022
Sweepers/Scrubbers	0.680		50	0.1508	0.3893	0.3297	0.0004	0.0355	31.6	0.0136
Sweepers/Scrubbers	0.680		120	0.1490	0.5329	0.8645	0.0009	0.0843	75.0	0.0134
Sweepers/Scrubbers	0.680		175	0.1856	0.8049	1.4276	0.0016	0.0854	139	0.0167
Sweepers/Scrubbers	0.680		250	0.1344	0.3643	1.5598	0.0018	0.0489	162	0.0121
Sweepers/Scrubbers	0.680	Sweepers/Scrubbers Comp		0.1548	0.5380	0.8473	0.0009	0.0686	78.5	0.0140
Tractors/Loaders/Backhoes	0.465	Tractors/Loac	25	0.0214	0.0681	0.1317	0.0002	0.0072	15.9	0.0019
Tractors/Loaders/Backhoes	0.465		50	0.1257	0.3548	0.3114	0.0004	0.0312	30.3	0.0113
Tractors/Loaders/Backhoes	0.465		120	0.0910	0.3623	0.5664	0.0006	0.0515	51.7	0.0082
Tractors/Loaders/Backhoes	0.465		175	0.1216	0.5881	0.9646	0.0011	0.0562	101	0.0110
Tractors/Loaders/Backhoes	0.465		250	0.1418	0.4037	1.5493	0.0019	0.0523	172	0.0128
Tractors/Loaders/Backhoes	0.465		500	0.2630	0.8495	2.7242	0.0039	0.0980	345	0.0237
Tractors/Loaders/Backhoes	0.465		750	0.3986	1.2725	4.2276	0.0058	0.1496	517	0.0360
Tractors/Loaders/Backhoes	0.465	Tractors/Loaders/Backhoes		0.1021	0.3930	0.6747	0.0008	0.0521	66.8	0.0092
Trenchers	0.695	Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0023	8.5	0.0009
Trenchers	0.695		25	0.0400	0.1355	0.2555	0.0004	0.0125	32.9	0.0036
Trenchers	0.695		50	0.1837	0.4365	0.3620	0.0004	0.0405	32.9	0.0166
Trenchers	0.695		120	0.1509	0.4840	0.9082	0.0008	0.0776	64.9	0.0136
Trenchers	0.695		175	0.2254	0.8843	1.7973	0.0016	0.0990	144	0.0203
Trenchers	0.695		250	0.2770	0.8161	2.6802	0.0025	0.1103	223	0.0250
Trenchers	0.695		500	0.3468	1.6352	3.4013	0.0031	0.1373	311	0.0313
Trenchers	0.695		750	0.6586	3.0677	6.5218	0.0059	0.2602	587	0.0594
Trenchers	0.695	Trenchers Composite		0.1675	0.4907	0.7598	0.0007	0.0637	58.7	0.0151
Welders	0.450	Welders	15	0.0124	0.0441	0.0720	0.0001	0.0052	6.2	0.0011
Welders	0.450		25	0.0254	0.0661	0.1091	0.0001	0.0077	11.3	0.0023
Welders	0.450		50	0.1231	0.3025	0.2724	0.0003	0.0287	26.0	0.0111
Welders	0.450		120	0.0807	0.2738	0.4899	0.0005	0.0428	39.5	0.0073
Welders	0.450		175	0.1333	0.5515	1.0896	0.0011	0.0590	98.2	0.0120
Welders	0.450		250	0.1052	0.3022	1.2367	0.0013	0.0400	119	0.0095
Welders	0.450		500	0.1327	0.4823	1.5648	0.0016	0.0520	168	0.0120
Welders	0.450	Welders Composite		0.0805	0.2246	0.2920	0.0003	0.0270	25.6	0.0073

Exhibit A.7 - Emissions Factors (continued)

Highest (Most Conservative) EMFAC2007 (version 2.3)

Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html

Vehicle Class:

Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model, taking the weighted average of vehicle types and simplifying into two categories:

Passenger Vehicles & Delivery Trucks.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle categories listed in the tables below, by use of the following equation:

Emissions (pounds per day) = N x TL x EF

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

This methodology replaces the old EMFAC emission factors in Tables A-9-5-J-1 through A-9-5-L in Appendix A9 of the current SCAQMD CEQA Handbook. All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear

Scenario Year: **2010**

All model years in the range 1966 to 2010

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	**0.00826276**	CO	**0.01843765**
NOx	**0.00091814**	NOx	**0.02062460**
VOC	**0.00091399**	VOC	**0.00258958**
SOx	**0.00001077**	SOx	**0.00002701**
PM10	**0.00008698**	PM10	**0.00075121**
PM2.5	**0.00005478**	PM2.5	**0.00064233**
CO2	**1.09568235**	CO2	**2.73222199**
CH4	**0.00008146**	CH4	**0.00012576**

Scenario Year: **2010**

All model years in the range 1966 to 2010

Passenger Vehicles (grams/mile)		Delivery Trucks (grams/mile)	
CO	**3.7479**	CO	**8.3631**
NOx	**0.4165**	NOx	**9.3551**
VOC	**0.4146**	VOC	**1.1746**
SOx	**0.0049**	SOx	**0.0123**
PM10	**0.0395**	PM10	**0.3407**
PM2.5	**0.0248**	PM2.5	**0.2914**
CO2	**496.9906**	CO2	**1,239.3086**
CH4	**0.0369**	CH4	**0.0570**

Highest (Most Conservative) EMFAC2007 (version 2.3)

Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html

Vehicle Class:

Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model and extracting the **Heavy-Heavy-Duty Diesel Truck (HHDT)** Emission Factors.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle/emission categories listed in the tables below, by use of the following equation:

Emissions (pounds per day) = N x TL x EF

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

The **HHDT-DSL** vehicle/emission category accounts for all emissions from heavy-heavy-duty diesel trucks, including start, running and idling exhaust. In addition, ROG emission factors account for diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors account for tire and brake wear.

The **HHDT-DSL, Exh** vehicle/emission category includes only the exhaust portion of PM10 & PM2.5 emissions from heavy-heavy-duty diesel trucks.

Scenario Year: **2010**

All model years in the range 1966 to 2010

HHDT-DSL (pounds/mile)		HHDT-DSL, Exh (pounds/mile)	
CO	**0.01195456**	PM10	**0.00168861**
NOx	**0.03822102**	PM2.5	**0.00155435**
VOC	**0.00304157**		
SOx	**0.00004131**		
PM10	**0.00183062**		
PM2.5	**0.00160083**		
CO2	**4.21120578**		
CH4	**0.00014201**		

Scenario Year: **2010**

All model years in the range 1966 to 2010

HHDT-DSL (grams/mile)		HHDT-DSL, Exh (grams/mile)	
CO	**5.4225**	PM10	**0.7659**
NOx	**17.3367**	PM2.5	**0.7050**
VOC	**1.3796**		
SOx	**0.0187**		
PM10	**0.8304**		
PM2.5	**0.7261**		
CO2	**1,910.1608**		
CH4	**0.0644**		

Exhibit A.7 - Emissions Factors (continued)					
Emission Factors for Tier 2 Construction Equipment					
hp Category	VOC (g/hp-hr)	CO (g/hp-hr)	NOx (g/hp-hr)	SOx (g/hp-hr)	PM10 (g/hp-hr)
25-50	0.56	4.10	5.04	NA	0.45
50-100	0.56	3.70	5.04	NA	0.30
100-175	0.49	3.70	4.41	NA	0.22
175 -300	0.49	2.60	4.41	NA	0.15
300-600	0.48	2.60	4.32	NA	0.15
600-750	0.48	2.60	4.32	NA	0.15
> 750	0.48	2.60	4.32	NA	0.15

Exhibit A.7 - Emissions Factors (continued)										
	Tugboat & Workboat Engine Average Emission Factors (g/HP-hr) from 2008 EI									
	PM10	PM2.5	DPM	NOx	SOx	CO	VOC	CO2	N2O	CH4
Propulsion Engines, Selected Factor for Plains - Mitigated (Additional 50% comliance with Tier 2 Standards)										
Tugboat, 800 hp	0.421	0.402	0.421	8.528	0.0055	2.020	0.546	478	0.025	0.012
Work boat, 400 hp	0.246	0.229	0.246	6.846	0.0055	2.375	0.427	494	0.034	0.010
Auxiliary Engines, Selected Factor for Plains - Mitigated (Additional 50% compliance with Tier 2 Standards)										
Tugboat, 52 hp	0.448	0.364	0.448	7.237	0.0055	3.236	0.856	493	0.022	0.025
Work boat, 38 hp	0.496	0.496	0.496	8.089	0.0055	4.217	1.142	703	0.022	0.032

	CO	NOx	PM10	PM2.5	SOx	VOC
Propulsion Engines, Selected Factor for Plains - Mitigated (Additional 50% comliance with Tier 2 Standards)						
Tugboat, 800 hp	2.020	8.528	0.421	0.402	0.0055	0.546
Work boat, 400 hp	2.375	6.846	0.246	0.229	0.0055	0.427
Auxiliary Engines, Selected Factor for Plains - Mitigated (Additional 50% compliance with Tier 2 Standards)						
Tugboat, 52 hp	3.236	7.237	0.448	0.364	0.0055	0.856
Work boat, 38 hp	4.217	8.089	0.496	0.496	0.0055	1.142

Attachment B
Southern California Association of Governments Correspondence

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS
Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435
t (213) 236-1800
f (213) 236-1825
www.scag.ca.gov

LM

RECEIVED
JUN 13 2008
ENV. MGMT. DIV.
HARBOR DEPARTMENT
CITY OF LOS ANGELES

June 12, 2008

Dr. Ralph Appy
Director Environmental Management Div.
425 South Palos Verdes Street
San Pedro, CA 90731

RE: SCAG Clearinghouse No. I 20080322 Pacific L.A. Marine Terminal LLC Crude Oil Terminal Project

Dear Dr. Appy:

SCAG-1

Thank you for submitting the **Pacific L.A. Marine Terminal LLC Crude Oil Terminal Project** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Pacific L.A. Marine Terminal LLC Crude Oil Terminal Project**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's **May 1-31, 2008** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1857. Thank you.

Sincerely,

LAVERNE JONES, Planning Technician
Environmental Planning Division

Doc #146497

AD # 070905-168

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

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November 5, 2007

Dr. Spencer D. MacNeil, Senior Project Manager
U.S. Army Corps of Engineers, Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325

EIS for Berths 136-147 [TraPac] Container Terminal Project

Dear Dr. MacNeil,

The following is intended to confirm the use of port transportation data in regional transportation and air quality management plans.

The Ports of Los Angeles/Long Beach (POLA/POLB) submit transportation data to the Southern California Association of Governments (SCAG) to account for current and projected port activity. In particular, the POLA/POLB cargo growth is accounted for in the Regional Transportation Plan (RTP) via traffic (truck and auto) volumes provided to SCAG.

The port activity data have been provided to the South Coast Air Quality Management District and incorporated into the recently approved 2007 South Coast Air Quality Management Plan (AQMP), and will also be included in the upcoming 2008 RTP. The Ports' data have been previously incorporated into the 1994, 1998, 2001, and 2004 RTPs and into the corresponding AQMPs.

If you have any questions in regard to this information, please feel free to contact me at (213) 236-1884.

Sincerely,

Jonathan Nadler
Program Manager, Air Quality & Conformity

c: Deng Bang Lee, SCAG
Janna Sidley, POLA
Kerry Cartwright, POLA

Attachment C

USACE Guidance Concerning Implementation of EPA's Clean Air Act General Conformity Rule

CDM

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

20 APR 1994

CECC-E

MEMORANDUM FOR ALL MAJOR SUBORDINATE COMMANDERS, AND DISTRICT COMMANDERS

SUBJECT: EPA's Clean Air Act (CAA) General Conformity Rule

1. In the Federal Register of November 30, 1993, the U.S. Environmental Protection Agency (EPA) published its final General Conformity Rule to implement Section 176(c) of the Clean Air Act (CAA) for geographic areas designated as "nonattainment" and "maintenance" areas under the CAA. EPA's final rule addresses how Federal agencies are to demonstrate that activities in which they engage conform with applicable, Federally-approved CAA state implementation plans. Because these agency conformity determinations can sometimes take considerable time and cost thousands of dollars to produce, and because failure to produce and sign an adequate conformity determination where one is required can create a serious legal vulnerability for a Corps project or permit, the Corps must ensure full and careful compliance with the new EPA Final Rule.

2. The enclosed guidance document has been prepared to assist Corps Divisions and Districts in understanding and complying with the subject rule. This guidance document is introductory in nature, and cannot be considered a substitute for careful reading of and compliance with the rule itself. (See 58 Fed.Reg. 63214 et seq.)

3. One of the primary subjects discussed in the enclosed guidance document is how the General Conformity Rule relates to the Corps regulatory program under Sections 9 and 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Ocean Dumping Act. As soon as practicable I intend to promulgate another guidance document providing more detailed instructions on how Corps personnel should deal with CAA conformity considerations regarding Corps Civil Works projects during the planning process, including preparation of CAA conformity determinations where that is necessary.

4. Although the attached document is rather "legalistic" in nature, it should be broadly distributed within the Corps family (e.g., counsel, regulatory, planning, operations, etc.). This guidance also contains important policy considerations, and thus has been fully coordinated with the Office of the Assistant Secretary of the Army (Civil Works) and with the Director of Civil Works.

5. My points of contact for this guidance are Lance Wood and Bill Sapp, CECC-E; their telephone number is (202) 272-0035.

FOR THE COMMANDER:

Lester Edelman

Encl

LESTER EDELMAN
Chief Counsel

CECC-E

EPA'S FINAL CLEAN AIR ACT GENERAL CONFORMITY RULE

I. INTRODUCTION.

In the Federal Register of November 30, 1993, the U.S. Environmental Protection Agency (EPA) published its final General Conformity Rule[1] to implement section 176(c) of the Clean Air Act (CAA)[2] for geographic areas designated as "nonattainment" and "maintenance" areas under the CAA. EPA's final rule addresses how Federal agencies are to demonstrate that activities in which they engage conform with applicable, Federally approved CAA state implementation plans.[3] Because these agency conformity determinations can sometimes take considerable time and cost thousands of dollars to produce[4], and because failure to produce and sign an adequate conformity determination where one is required can create a serious legal vulnerability for a Corps project or permit, the Corps must ensure full and careful compliance with the new EPA final rule.

EPA's final rule was promulgated to implement CAA section 176(c), which was added to the Clean Air Act in 1977[5] to require that Federal agencies assure that activities they engage in are in conformance with Federally-approved CAA state implementation plans.[6] This requirement is clearly triggered whenever a Federal

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[1] 58 Fed. Reg. 63214 (November 30, 1993).

[2] Clean Air Act § 176(c), 42 U.S.C. § 7506 (1993).

[3] 58 Fed. Reg. 63214 (November 30, 1993). Section 110 of the Clean Air Act requires that all states and the District of Columbia develop state implementation plans for EPA approval that provide detailed accounts of how the state will attain the National Ambient Air Quality Standards throughout the state. 42 U.S.C. § 7410 (1993).

[4] The EPA estimated in its proposed rule that a conformity determination would cost approximately $5,000, whereas an extensive conformity determination would cost $50,000. 58 Fed. Reg. 13848 (March 15, 1993). Department of Defense estimates double the figures supplied by the EPA.

[5] Pub. L. 95-95, § 176(c) (1977).

[6] Section 176(c)(1) provides in relevant part that:

> No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve,

(continued...)

agency engages in a Federal project, but it is also triggered whenever a Federal agency permits, licenses, funds, or approves a non-Federal undertaking. The Corps' Clean Water Act (CWA) section 404 permits, Rivers and Harbors Act of 1899 Section 10 permits, and Ocean Dumping Act Section 103 permits fall under this latter category.

II. APPLICABILITY.

A. EXEMPTIONS AND PRESUMPTIONS. As you study the final rule and its preamble, the first general subject to consider is the "applicability" of the rule. The new rule applies generally to Federal actions except for those covered by EPA's transportation conformity rule[7], actions with associated emissions below the de minimis levels specified at 40 CFR 91.853, certain classes of actions designated at 40 CFR 91.853 as exempted or presumed to conform, and actions that the new rule "grandfathers" at 40 CFR 91.850. A number of Corps activities may fit within the long list of "exempted" or "presumed to conform" activities. For example, note the specific exemption provided for maintenance dredging and debris disposal actions.

B. GRANDFATHER CLAUSE. As you consider the "grandfather provision", remember that it describes the specific circumstances where a Federal action need not comply with the new general conformity rule, but the Corps might nevertheless have to create and sign a CAA conformity determination to show compliance with the statutory mandate of CAA Section 176(c). However, that conformity determination would not have to comply with the specific procedural requirements of the new EPA regulation. Also note that the second basis provided in the rule for grandfathering, i.e., the three-part requirement of 40 CFR 93.150(c)(2), requires that an environmental analysis had to be commenced prior to January 31, 1994, or that a contract to develop a specific environmental analysis was awarded prior to January 31, 1994. The reference in that section to the date of December 30, 1993, was an error. The EPA has since corrected that date to January 31, 1994, by publishing the correction in the Federal Register, i.e., January 31, 1994. Moreover, that same section requires that a CAA conformity

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[6](...continued)
any activity which does not conform to an implementation plan after it has been approved or promulgated under section 110. . . . The assurance of conformity to such an implementation plan shall be an affirmative responsibility of the head of such department, agency or instrumentality.

C.A.A. § 176(c)(1), 42 U.S.C. § 7506 (1993).

[7]See 40 CFR Part 51, subpart T.

determination demonstrating compliance with the statutory mandate of CAA Section 176(c) be signed by March 15, 1994.

C. ATTAINMENT VERSUS NON-ATTAINMENT AREAS. Also regarding applicability, note that the new CAA General Conformity Rule applies only to Federal actions in CAA non-attainment areas and in those attainment areas subject to maintenance plans required by CAA Section 175A (i.e., "maintenance areas"; see 58 Fed. Reg. 13841) . EPA has announced its intentions to do another rulemaking at a later date describing how CAA Section 176(c) will be applied to CAA attainment areas, in general.

III. REQUIREMENTS OF THE NEW RULE.

To fully understand the requirements of the rule, you must carefully study both the rule itself and the explanatory guidance provided in the preamble. In the near future, the Office of the Chief Counsel expects to provide additional guidance that will assist Corps personnel who must prepare CAA conformity determinations, especially for Corps planning studies, feasibility reports, and the like. In this guidance, I only wish to emphasize a few important aspects of the rule, to ensure understanding of those matters throughout the Corps, for both our projects and our regulatory responsibilities.

A. CONFORMITY DETERMINATIONS. The basic requirement of the General Conformity Rule is stated at 40 CFR 93.150(b): "A Federal agency must make a determination that a Federal action conforms to the applicable implementation plan in accordance with the requirements of this subpart before the action is taken." (emphasis added). Obviously, to implement that mandate we must turn to the definition of "Federal action" provided at 40 CFR 93.152:

> Federal action means any activity engaged in by a[n] ... agency ... of the Federal Government, or any activity that a[n] ... agency ... supports in any way, provides financial assistance for, licenses, permits, or approves.... Where the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase of the non-Federal undertaking that requires the Federal permit, license, or approval."

B. DIRECT EMISSIONS. Regarding what air emissions must be considered in a CAA conformity determination, the rule defines two classes: direct emissions, and indirect emissions. The definition of "direct emissions" is straightforward: "Direct emissions" means those emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action." (40 CFR 93.152)

C. INDIRECT EMISSIONS. In contrast, the definition of "indirect emissions" needs careful study: "indirect emissions"

means those emissions of a criteria pollutant or its precursors that: (1) Are caused by the Federal action but may occur later in time and/or may be further removed in distance from the action itself but are still reasonably foreseeable; and (2) The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency." (40 CFR 93.152; emphasis added.) Note that the second, limiting part of that definition is crucial, since the underlined words provide essential restrictions on how far the Corps' responsibilities extend regarding documenting and controlling indirect emissions. Those restrictions from the rule's definition of "indirect emissions" are especially important, given the General Conformity Rule's broad, "but for" definition of the term "caused by": "Caused by, as used in the terms 'direct emissions' and 'indirect emissions,' means emissions that would not otherwise occur in the absence of the Federal action."[5] This definition of the term "caused by" can be characterized as a "but for" approach to the concept of causation, because, standing alone, it would require the Corps to take responsibility for all indirect emissions that would not occur without (i.e., "but for") the Corps permit or project. If the General Conformity Rule did not contain the various limiting provisions discussed herein, that "but for" approach to defining "caused by" would have made the Corps responsible for dealing with potential emissions that might not occur "but for" the Corps project or permit, but which might be substantially removed in time and/or distance from the Corps action; those emissions would be almost impossible for the Corps to predict, document, or control through mitigation measures.

Consequently, it is of considerable importance to the Corps Civil Works program that everyone understand and make proper use of the restrictions noted above in the definition of "indirect emissions" when deciding whether or how we need to prepare a CAA conformity determination. Of course, the Corps must consider the "direct emissions" caused by our proposed project or activity, or by the specific activity requiring a Corps permit. However, the final General Conformity Rule does not require the Corps to document or analyze any "indirect emissions" unless we determine that it would be practicable for the Corps to control them, and that the Corps would maintain control over them due to a continuing Corps program responsibility. As we shall discuss later, we expect that the Corps will not be legally required under the General Conformity Rule to analyze, document, and seek mitigation measures for indirect emissions for many Corps project-related actions, and for the vast majority of actions requiring Corps permit authorization, since often it will not be practicable for the Corps to control such emissions, and frequently the Corps will not have a continuing program responsibility to maintain control over them.

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[5] 40 CFR 913.152 (1994).

The logic behind the limitation on what "indirect emissions" the Corps must analyze, document, and seek mitigation measures to reduce, is explained in the preamble to EPA's rule, as follows:

> The EPA does not believe that it is reasonable to conclude that a Federal agency "supports" an activity by third persons over whom the agency has no practicable control--or "supports" emissions over which the agency has no practicable control, based on the mere fact that, if one inspects the "causal" chain of events, the activity or emissions can be described as being a "reasonably foreseeable" result of the agency's actions.
>
> In fact, achievement of the clean air goals is not primarily the responsibility of the Federal government. Instead, Congress assigned that responsibility to the State and local agencies.... Where the Federal control over the resultant emissions is relatively minor, the problem is likely caused by multiple pollution sources and a solution may be impossible unless it is directed at all the contributing sources. This role is given to the State and local agencies by Congress and should not be interpreted as the Federal agencies' role under section 176(c).[9]

IV. CORPS IMPLEMENTATION OF THE EPA GENERAL CONFORMITY RULE.

A. CORPS PROJECTS VERSUS NON-FEDERAL ACTIVITIES NEEDING CORPS PERMIT AUTHORIZATION.

From a legal point of view, many of the limitations on Corps responsibilities for documenting and mitigating for indirect emissions (as discussed above) apply to both Corps Civil Works projects and to Corps regulatory program actions regulating non-Federal activities. Nevertheless, there are some significant distinctions that must be made, as a practical matter, regarding how often and in what circumstances the Corps will voluntarily choose to go beyond our strict legal obligations under the General Conformity Rule regarding CAA analyses of indirect emissions. As we explain at some length hereinafter, for practical reasons, policy reasons, and legal reasons, we are not required to, and thus we will not, prepare CAA conformity determinations for the vast majority of the approximately 100,000 activities that we must authorize yearly through the Corps regulatory program. We intend to assert and make full use of the various exemptions and limitations written into the General Conformity Rule that apply to our regulatory program, which exemptions and limitations will usually lead us to conclude that the emissions we are responsible for fall below the de mimimis exemption level. Among the many reasons why this approach is necessary and appropriate is the fact

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[9] 58 Fed. Reg. 63220 (November 30, 1993)

that we must provide relatively expeditious decisions for non-Federal activities that require Corps permit authorization, and because all of the non-Federal activities that require Corps permits are fully subject to the CAA authorities of the U.S. EPA and of the state and local governments.

In contrast, some Corps water resource development projects go through lengthy planning processes, with full-scale NEPA Environmental Impact Statements, coordination with numerous state and Federal agencies, etc. Moreover, many of our water resource development projects are subject to litigation brought by project opponents. Consequently, wherever it is practicable and appropriate, the Corps will go beyond our strict legal obligations under the General Conformity Rule, and we will prepare CAA conformity determinations that consider indirect emissions that would follow from our project, even where it is debatable whether we could "practicably" control those indirect emissions, and even where it is debatable whether the Corps has a continuing program responsibility to control those indirect emissions. In other words, we should err on the side of caution in writing CAA conformity determinations for large-scale Corps projects, and in coordinating those determinations with the U.S. EPA and with state and local clean air agencies. However, whenever the Corps does voluntarily choose to go beyond our obligations under the General Conformity Rule while preparing a CAA conformity determination, the fact that we are voluntarily going beyond our understanding of our legal obligations must be clearly stated in our public documentation.

When the Corps prepares a CAA conformity determination for a Corps project in the planning stage, and in that conformity determination we voluntatily address all indirect emissions that would be "caused by" our project, that will provide us the valuable opportunity to demonstrate that any short-term increase in emissions from project construction will be entirely or partially offset by decreases in long-term, "without project condition" emissions, due to increased efficiencies (for example, through more efficient port operations from a port improvement project). Also, when we prepare a CAA conformity determination that deals with all indirect emissions that can reasonably be said to be "caused by" our project, our project can be presented to the state CAA authority and specifically approved as part of the state implementation plan, along with any necessary state revisions to that SIP necessary to accommodate the Federal project and all associated indirect emissions. Development and coordination of our CAA conformity determination should be undertaken as early as possible in the planning stage for a large-scale or litigation-prone Corps project. The resulting documentation will be extremely useful to help defend our project from potential litigation challenging compliance with the CAA. On the other hand, for small-scale Corps projects, covered only by environmental assessments and findings of no significant impact, and where no CAA-related litigation can be anticipated, we can probably rely only on the

exemptions found in the General Conformity Rule, and need not necessarily prepare a full-blown CAA conformity determination voluntarily addressing various indirect emissions. Please feel free to consult the points of contact provided in this guidance if you are in doubt about whether a particular Civil Works activity should be covered by a CAA conformity determination voluntarily covering indirect emissions.

B. THE CORPS REGULATORY PROGRAM.

One crucial aspect of this guidance involves how we expect all Corps offices to implement the CAA General Conformity Rule regarding non-Federal activities requiring authorization under the Corps regulatory program. Of course, if another Federal agency requires a Corps permit for one of its activities or projects, that Federal agency is fully responsible for ensuring compliance with CAA Section 176(c), and the Corps can adopt and rely upon that agency's conformity determination, or upon whatever waiver or presumption under the CAA General Conformity Rule that agency believes will satisfy CAA Section 176(c). However, for non-Federal activities, the Corps must take responsibility for whatever CAA conformity determination may be necessary. Nevertheless, for the reasons explained hereinafter, the new rule and its preamble clearly indicate that the vast majority of activities needing Corps permit authorization will not require a CAA conformity determination, because practically all of those activities will fall below the de minimis threshold levels for emissions specified at 40 CFR 93.153.

C. SCOPE OF ANALYSIS. One feature of EPA's final General Conformity Rule that clearly demonstrates that the Corps will not have to perform many conformity determinations is the rule's definition of the term "Federal action". The final rule's definition clearly distinguishes between large Federal projects, such as a Federally funded and Federally controlled military base, versus non-Federal undertakings that simply require a Federal permit. Oftentimes in the latter case, the Federal agency only has to permit a minor part, portion, or phase of a much larger non-Federal undertaking. To reflect the limited Federal responsibility under the CAA derived from such Federal permits, the EPA definition of "Federal action" indicates that, in complying with section 176(c), Federal regulatory agencies are only responsible for analyzing the emissions resulting from the "part, portion, or phase" of the non-Federal undertaking that they permit. To deal with this important point, the EPA added the following sentence to the final rule's definition of "Federal action":

> Where the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase of

the non-Federal undertaking that requires the Federal permit, license, or approval.[10]

As you can see, the legal principle behind the quoted sentence is the same principle that supports the "narrow scope of analysis" approach for our NEPA documents reflected at Appendix B of 33 CFR Part 325, paragraph 7.b. and the "permit area" approach used to limit Corps responsibilities in Appendix C, implementing the National Historic Preservation Act.[11] The rule of administrative law and practice created by the sentence just quoted from EPA's definition of "Federal action" is that, for the limited and particular purposes of the CAA Conformity Rule and for every Corps CAA conformity determination for a Corps regulatory action under this rule, the Corps will always use a narrow "scope of analysis" for purposes of CAA Section 176(c), even if we choose to use a broader scope of analysis for purposes of NEPA, the public interest review, or the 404(b)(1) analysis for that same permit case.

This narrow scope of analysis for purposes of the CAA conformity analysis is always appropriate, for several reasons. For example, the Corps regulators have no expertise or authority allowing them to evaluate or control air emissions from the larger, overall projects, such as a shopping center, that may require a Corps permit for one phase or portion of that larger project (e.g., placement of fill material on which part of the shopping center will later be constructed and operated). In contrast, the state and EPA clean air authorities have broad, general authority, expertise, and responsibility to evaluate and control air emissions from the larger, overall projects, such as shopping centers, regardless of whether part of all of such a shopping center happens to be constructed on fill material permitted by the Corps of Engineers.

D. CONFORMITY DETERMINATIONS FOR CORPS PERMITS CASES WILL BE NECESSARY VERY RARELY. The sentence quoted above from EPA's definition of "Federal action" may well be the most important provision of the General Conformity Rule relating to the Corps regulatory program, because this provision, in conjunction with the restrictive language discussed above from the definition of "indirect emissions", means that very rarely will the Corps have to prepare a CAA conformity determination document for a Corps regulatory action. The reasons for this conclusion are reflected in the following case example, provided by EPA in the preamble of the final General Conformity Rule. In this example, the EPA shows the close relationship between the sentence quoted above from the definition of "Federal action" and the restrictive language from the definition of "indirect emissions", as follows:

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[10] 58 Fed. Reg. 63248 (November 30, 1993).

[11] 55 Fed. Reg. 27000 (June 29, 1990)

> [In the final rule] the definition of "Federal action" is revised by adding the following sentence to the end of the definition in the [proposed rule]: Where the Federal action is a permit, license, or other approval for some aspect of a nonfederal undertaking, the relevant activity is the part, portion, or phase of the nonfederal undertaking that requires the Federal permit, license or approval. The following examples illustrate the meaning of the revised definition.
>
> Assume, for example, that the [Corps] issues a permit and that permitted fill activity represents one phase of a larger nonfederal undertaking; i.e., the construction of an office building by a nonfederal entity. Under the conformity rule, the [Corps] would be responsible for addressing all emissions from that one phase of the overall office development undertaking that the [Corps] permits; i.e., the fill activity at the wetland site. However, the [Corps] is not responsible for evaluating all emissions from later phases of the overall office development (the construction, operation, and use of the office building itself), because later phases generally are not within the [Corps'] continuing program responsibility and generally cannot be practicably controlled by the [Corps].[12]

The conclusion to be drawn regarding the preamble's case example is that the Corps almost certainly would not have to prepare a CAA conformity determination for that permit action described in the preamble, because the direct emissions from the fill activity would be relatively minor, and thus in all probability they would fall below the de minimis levels exempted by 40 CFR 93.153. Moreover, in this example one cannot identify any indirect emissions for which the Corps would be responsible.

E. "PART, PORTION, OR PHASE" OF A LARGER UNDERTAKING. The preamble for the final rule provides several other important explanatory passages that accurately describe the limited nature of the responsibilities the Corps must fulfill as we operate our regulatory program in compliance with EPA's General Conformity Rule. As the EPA states in the preamble, the "inclusive definition" that EPA had published for public comment in the proposed rule to define the term "indirect emissions" would have been overly burdensome and inappropriate for regulatory programs that might have to "document the air quality affects from tens of thousands of public and private business activities each year, even where the associated Federal action in extremely minor."[13] The EPA

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[12] 58 Fed. Reg. 63227 (November 30, 1993).

[13] 58 Fed. Reg. 63219 (November 30, 1993).

goes on to use the Corps in an illustration of this point by explaining that:

> [T]he Army Corps of Engineers estimates that 65,000 of their regulatory actions would have required a conformity review in 1992 under the inclusive definition. The [Corps] permits are often limited to a small portion of a much larger project and, thus, may not be the best mechanism to review the larger project: e.g., one river crossing for a 500 mile gas pipeline or a half-acre wetland fill for a twenty acre shopping mall.[14]

As the EPA explains here, it would be impractical to force a Federal regulatory agency like the Corps to do potentially time-consuming and costly air quality analyses when the activity that agency permits may be a very minor aspect of a much larger non-Federal undertaking, and when that specific activity needing a Corps permit may have little or no effect on air quality.

F. CONTINUING PROGRAM RESPONSIBILITY. The EPA also used the Corps in an illustration to explain the phrase "continuing program responsibility" in the definition of the term "indirect emissions". In their example the EPA explains that only if the Corps were to impose conditions on a permit as part of its responsibilities under its regulatory program and these permit conditions, in and of themselves, would lead to an increase in the air emissions caused by the activity, would the Corps be required to include the air emissions caused by its permit conditions in our CAA conformity analysis.[15] However, the preamble to EPA's rule makes clear that normally the Corps is not responsible for indirect emissions related to activities needing Corps permits:

> j. Exclusive definition [for the term "indirect emissions"]--types of Federal actions not covered. The following types of Federal actions, among others, are not covered by the conformity rule under the exclusive definition approach [i.e., the approach adopted in the final rule]....(3) Certain indirect emissions related to a [Corps of Engineers] permit for the discharge of dredged or fill material. The indirect emissions from development activities related to [Corps] permit actions are not subject to the continuing program responsibility of the [Corps], or cannot be practicably controlled by the [Corps].[16]

The EPA preamble also recognizes that the Corps has an explicit exemption from the conformity rule where:

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[14] 58 Fed. Reg. 63219 (November 30, 1993).

[15] 58 Fed. Reg. 63220 (November 30, 1993).

[16] 58 Fed. Reg. 63224 (November 30, 1993).

> The indirect emissions from development activities related to [Corps] permit actions are not covered where such emissions are not subject to the continuing program responsibility of the [Corps], or cannot be practicably controlled by the [Corps].[17]

The EPA then goes on in the preamble to explain the changes in the definition for the term "indirect emissions" that EPA adopted in its final General Conformity Rule (i.e., the "exclusive" definition). Again it uses the Corps in an illustration. The EPA points out that conformity analyses are not required when Federal actions are incidental to later development by private parties. As the EPA states:

> ...this approach would not require a conformity analysis for certain Federal actions that are necessary for, but incidental to, subsequent development by private parties. For example, the exclusive definition does not generally require that a [Corps] fill permit needed for a relatively minor part, portion, or phase of a twenty acre development on private land would somehow require the [Corps] to evaluate all emissions from the construction, operation, and use of that larger development.[18] (emphasis added)

Here the EPA explains that the "activity" contemplated under section 176(c) in many cases is properly limited to the particular "part, portion, or phase" of a non-Federal action that is actually permitted by the regulatory agency (i.e., the Corps). As the EPA goes on to explain:

> The person's [i.e., permit applicant's] activities that fall outside the Federal agency's continuing program responsibility to control are subject to control by state and local agencies.[19]

As indicated above, generally speaking the Corps does not have a continuing program responsibility to measure, monitor, control, or mitigate for air emissions that may result from the construction or operation of a non-Corps facility (such as a shopping center, factory, or non-Federal port), even though some part, portion, or phase of that facility requires a permit from the Corps. Under the CAA, the state and local clean air authorities have full responsibility and authority to deal with those emissions, and to prevent or condition the construction of the non-Federal facility as necessary to deal with those air emissions. Under the General

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[17] 58 Fed. Reg. 63224 (November 30, 1993).

[18] 58 Fed. Reg. 63222 (November 30, 1993).

[19] 58 Fed. Reg. 63222 (November 30, 1993)

Conformity Rule the Corps (1) must consider direct emissions from only the particular part, portion, or phase of the larger, non-Federal facility that we permit; and (2) we must consider indirect emissions from that same part, portion, or phase, and then only to the extent that we can practicably control them, and have a continuing program responsibility to control them.

G. CORPS DOCUMENTATION OF COMPLIANCE WITH CAA SECTION 176(C)

For any permit case where the Corps reasonably determines that the emissions from the particular "part, portion, or phase" of a larger, non-Federal undertaking, needing a Corps permit, would fall below the de minimis threshold levels of 40 CFR 93.153, the Corps will not have to conduct a technical analysis to document that the emissions from the proposed undertaking would not exceed the de minimis thresholds. This conclusion is supported by the following example taken from EPA's preamble to the General Conformity Rule:

> Example 4: Where a [Corps of Engineers] permit is needed to fill a wetland so that a shopping center can be built on the fill, generally speaking, the [Corps] could not practicably maintain control over and would not have a continuing program responsibility to control indirect emissions from subsequent construction, operation, or use of that shopping center. Therefore, only those emissions from the equipment and motor vehicles used in the filling operation, support equipment, and emissions from movement of the fill material itself would be included in the analysis. If such emissions are below the de minimis levels described below for applicability purposes (section 51.858), no conformity determination ... would be required for the issuance of the ... permit.[20]

The same point is made elsewhere in the preamble to the General Conformity Rule, as follows:

> Most Federal actions result in little or no direct or indirect air emissions. The EPA intends such actions to be exempted under the de minimis levels specified in the rule and, thus, no further analysis by the Federal agency is required to demonstrate that such actions conform.... Further, the EPA believes that Federal actions which are de minimis should not be required by this rule to make an applicability analysis. A different interpretation could result in an extremely wasteful process which generates vast numbers of useless conformity statements. Paragraphs (c)(1) and (2) of Section 51.853 are added to the final rule to provide that de minimis actions are exempt from the requirements of this rule. Therefore, it is

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[20] 58 Fed. Reg. 63223 (November 30, 1993).

not necessary for a Federal agency to document emissions levels for a de minimis action.[21]

Although we expect that the vast majority of activities needing Corps permits will not need CAA conformity determinations for the reasons explained above, nevertheless, for any permit case where litigation can be anticipated if the Corps issues the permit, the permit administrative record should explain our limited CAA responsibilities under the CAA General Conformity Rule, and the basis for our conclusion that the relevant emissions would be de minimis. That explanation often may need to include a discussion of why it would not be "practicable" for the Corps to control certain specified indirect emissions, and why the Corps does not have a continuing program responsibility to control such indirect emissions, and why our CAA responsibilities are limited to the particular "part, portion, or phase" of a larger undertaking requiring Corps permit authorization.

V. CONCLUSION.

Because of the various provisions discussed above, we expect that very few Corps permit actions will require CAA conformity analyses, and that our CAA conformity determinations will normally conclude that the air emissions relevant to our permit action are safely below the final rule's de minimis levels. It seems that the only time that the Corps will have to do a full-scale CAA conformity determination in a permit case is when the emissions associated with the particular activity needing the Corps permit, or the particular activity required by Corps permit conditions (e.g., the placement of the fill, or the construction of the structure in the water, or the actual dredging and disposal operation, or implementation of the required mitigation plan) are so substantial that those emissions would exceed the de minimis thresholds by themselves. This conclusion flows logically from the provisions discussed above from EPA's final rule and preamble, based in part on the principle of limited Corps responsibilities under the CAA.

Nevertheless, the practical necessity that the Corps will use a "narrow scope of analysis" to limit our requirements under the CAA conformity rule must not lead the Corps necessarily to use such a narrow scope of analysis for purposes of the Corps' other responsibilities under other aspects of the public interest review or the 404(b)(1) Guidelines. Because the Corps has ample discretion to adopt and use a broader scope of analysis for purposes of NEPA, the Endangered Species Act, etc., we will not use the CAA conformity determination as an excuse or occasion to reduce our more wide-ranging reviews and responsibilities under those other statutes and regulations.

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[21] 58 Fed. Reg. 63228-63229 (November 30, 1993).

The Corps' very limited expertise, authority, and continuing program responsibilities regarding air emissions fully justifies our using a narrow scope of analysis for purposes of compliance with CAA Section 176(c). In contrast, our broader, traditional responsibility, authority, and expertise to regulate activities affecting aquatic resources will often justify our using a broader scope of analysis to consider effects of a proposed undertaking on aquatic resources, endangered species, etc. Thus, for any particular permit case, the Corps will implement the CAA General Conformity Rule by focusing on only the specific part, portion, or phase of the larger undertaking that requires our permit authorization. Nevertheless, we often will consider all direct and indirect effects of the larger undertaking when evaluating effects on the aquatic environment.

Corps Headquarters points of contact for this guidance are Lance Wood and Bill Sapp of the Office of the Chief Counsel (CECC-E); their telephone number is (202) 272-0035. However, non-counsel Corps employees should only contact them in conjunction with district/division counsel to ensure proper coordination.

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Attachment D

Determination from SCAQMD that PLAMT Federal Action Conforms to the SIP

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

May 20, 2010

Spencer D. MacNeil, D. Env.
Senior Project Manager
U.S. Army Corps of Engineers
Los Angeles District Regulatory Division
2151 Alessandro Drive, Suite 110
Ventura, California 93001

Re: Draft General Conformity Determination for the Pacific Los Angeles Marine Terminal LLC Crude Oil Terminal Project at the Port of Los Angeles

Dear Mr. MacNeil,

South Coast Air Quality Management District (District) staff has reviewed the Draft General Conformity Determination (dated February 2010) for the Pacific Los Angeles Marine Terminal LLC Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines Project at the Port of Los Angeles ("Crude Oil Terminal project" or "project"). We understand the Draft Conformity Determination to conclude that the project can be found to conform to the State Implementation Plan (SIP) under any one of three criteria, including 40 CFR 93.158(a)(1) [emissions from project are specifically identified and accounted for in SIP], 93.158(a)(5)(i)(A) [budget test], or 93.158(a)(5)(i)(B) [written commitment for SIP revision to accommodate emissions from the project]. See page 8-1 of the Draft Conformity Determination.

Based on our review of the Draft Conformity Determination, we agree as a general matter with the contention that the 2007 South Coast Air Quality Management Plan (AQMP), together with the 2007 State Strategy, provides the USACE with a basis upon which to make a positive conformity determination for this project under 40 CFR 93.158(a)(5)(i)(B) but note that USACE's Conformity Determination cannot simply conclude that the submitted SIP revisions satisfy this particular criterion for conformity, but must rely upon documentation by, in this case, the District for such a conclusion. The purpose of this letter is to provide that documentation. More specifically, the purpose of this letter is to explain how the California Air Resources Board's (CARB's) submittal to EPA of the 2007 South Coast AQMP and 2007 State Strategy satisfies the criterion under

40 CFR 93.158(a)(5)(i)(B) of EPA's general conformity rule allowing a positive conformity determination in light of a written commitment for a SIP revision.

EPA's General Conformity rule (40 CFR part 93, subpart B, and 40 CFR Part 51, Subpart W, as adopted by reference in SCAQMD Rule 1901, September 1994, hereafter cited to as 40 CFR Part 93) establishes an applicability test for determining which Federal actions are subject to the conformity requirement.[1] If a proposed action would result in emissions increases less than identified de minimis thresholds, then no conformity determination need be made. If emissions from a proposed action would exceed the de minimis threshold for any given maintenance or nonattainment pollutant (or precursor), then the Federal Agency must make a positive conformity determination for that pollutant(s) on the basis of one of the criteria listed in 40 CFR 93.158.

EPA recently published a final rule approving the reclassification of the South Coast Air Basin from "severe-17" to "extreme" for the 1997 8-hour ozone national ambient air quality standard. See 75 FR 24409 (May 5, 2010). As a result, effective June 4, 2010 (i.e., the effective date of EPA's May 5, 2010 final rule), the applicable de minimis thresholds for applicability purposes for ozone precursors will decrease from 25 tons per year (applicable to "severe-17" areas) to 10 tons per year (applicable to "extreme" areas) for emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x).

In this instance, the U.S. Army Corps of Engineers (USACE) and the Port of Los Angeles (POLA) determined that the Crude Oil Terminal project would exceed the de minimis threshold for emissions of NO_x (as a precursor to ozone), and must make a conformity determination for that pollutant using one of the criteria under 40 CFR 93.158. From the data presented to the District, the estimated construction NO_x emissions from this project are 79.5 tons per year for 2010, 76.5 tons per year and 35.4 tons per year for 2011 and 2012, respectively. Given the reclassification of the South Coast to "extreme," if USACE's conformity determination for this project is made on June 4, 2010, or later, a conformity determination will need to be made not just for the project's NO_x emissions, but also for the project's VOC emissions because projected VOC emissions in year 2011 (14.3 tons per year) would exceed the applicable de minimis threshold of 10 tons per year (based on table 4-3 of Draft Conformity Determination). [Emissions increases of the other pollutants would be below the applicable de minimis thresholds.]

One basis upon which USACE proposes to determine conformity for the project is 40 CFR 93.158(a)(1), which provides that such emissions can be found to conform it they are "specifically identified and accounted for in the applicable SIP's attainment or maintenance demonstration." USACE correctly identifies the 1997/99 South Coast SIP as the applicable SIP for the South Coast Air Basin (SCAB). The Draft Conformity

[1] EPA approved SCAQMD Rule 1901 as a revision to the California SIP on April 23, 1999 (64 FR 19916). Rule 1901 thus establishes the general conformity requirements in the South Coast except to the extent that the rule does not reflect changes to the General Conformity Rule that EPA has promulgated since approval of Rule 1901. To the extent that SCAQMD Rule 1901 differs from EPA's amended General Conformity rule, EPA's amended rule governs. See 40 CFR 51.851(b) (which will be revised and recodified effective July 6, 2010). EPA's most recent amendments to the General Conformity Rule will be in effect on July 6, 2010. See 75 FR 17254 (April 5, 2010).

Determination notes that the project was announced while the 1997 South Coast AQMP (which represents a portion of the 1997/99 South Coast SIP) was being prepared, and that the emissions were projected through 2020 in the 1992 Deep Draft Final EIS/EIR. Moreover, marine vessels activity improvement and growth at the ports was recognized in Appendix III of the 1997 AQMP. However, no specific ports projects are identified and accounted for in the 1997/99 South Coast SIP, and thus, the emissions from the Crude Oil Terminal project cannot be said to be specifically identified and accounted for in the applicable SIP for the purposes of 40 CFR 93.158(a)(1).

A second basis upon which USACE proposes to determine conformity is 40 CFR 93.158(a)(5)(i)(A). Consistent with the conformity criterion in 40 CFR 93.158(a)(5)(i)(A), the USACE and POLA requested the District to consider whether the Marine Terminal Crude Oil Terminal project could be found to "result in a level of emissions which, together with all other emissions in the nonattainment (or maintenance) area, would not exceed the emissions budgets specified in the applicable SIP." See 40 CFR 93.158(a)(5)(i)(A). The existing General Conformity budgets for the South Coast come from the 1997/99 South Coast Ozone SIP. EPA believes that these budgets are lower than current emissions estimates, and thus do not provide a basis for making a positive conformity determination.

However, the District believes that the third basis upon which USACE proposes to determine conformity [40 CFR 93.158(a)(5)(i)(B)] is available to this project. Under 40 CFR 93.158(a)(5)(i)(B), a State can commit to revising the SIP in such a way as to accommodate a Federal action, and the SIP commitment itself provides the basis for a positive conformity determination. The District believes that the necessary SIP revision called for under 40 CFR 93.158(a)(5)(i)(B) has already been satisfied through submittal of the 2007 South Coast AQMP and the 2007 State Strategy (collectively, the "2007 South Coast SIP") and that the 2007 South Coast SIP accommodates the NO_x and VOC emissions from the Crude Oil Terminal project.

In the following paragraphs, we explain how the 2007 South Coast SIP fulfills each of the elements identified in 40 CFR 93.158(a)(5)(i)(B) for SIP revisions that may be relied upon by Federal agencies to make a positive conformity determination.

(1) A specific schedule for adoption and submittal of a revision to the SIP which would achieve the needed emissions reductions prior to the time emissions from the Federal action would occur;

A schedule for adoption and submittal of a SIP revision is unnecessary because the necessary SIP revisions have already been submitted. Specifically, the 2007 AQMP was adopted by the District on June 1, 2007, and by CARB on September 27, 2007, and was submitted to EPA on November 28, 2007. The 2007 State Strategy, upon which the 2007 AQMP relies in part, was adopted on September 27, 2007, and submitted to EPA on November 16, 2007. An amendment to the 2007 State Strategy was submitted to EPA on August 12, 2009.

(2) Identification of specific measures for incorporation into the SIP which would result in a level of emissions which, together with all other emissions in the nonattainment or maintenance area, would not exceed any emissions budget specified in the applicable SIP;

The 2007 AQMP and 2007 State Strategy set forth new and amended control measures and strategies intended to meet, among other requirements, the requirement to demonstrate reasonable further progress (RFP) and attainment of the 1997 8-hour ozone standard. Specifically, Chapter 4 of the 2007 AQMP, and the Proposed State Strategy for California 2007 State Implementation Plan (release date April 26, 2007)(as revised per CARB Resolution 07-28), describe in detail the control strategies that the District and CARB have adopted to demonstrate RFP and attainment of the 1997 8-hour ozone standard.

(3) A demonstration that all existing applicable SIP requirements are being implemented in the area for the pollutants affected by the Federal action, and that local authority to implement additional requirements has been fully pursued;

Tables 1-2 and 1-3 of the 2007 AQMP show the progress that the District and CARB have made in adopting control measures set forth in previous plans for the South Coast. See Chapter 7 of the 2007 AQMP for a specific discussion of the issue of plan implementation. Appendix VI of the 2007 AQMP includes a Reasonably Available Control Measure (RACM) demonstration that indicates that no other measures could be adopted that would advance the attainment date by a year.

CARB is also acting on its current SIP commitments, as demonstrated in the Status Report on the State Strategy for California's 2007 State Implementation Plan (SIP) and Proposed Revision to the SIP Reflecting Implementation of the 2007 State Strategy, submitted to U.S. EPA on August 12, 2009. The status report identified rules adopted by CARB that will provide 87 percent of the needed reductions in nitrogen oxides (NOx) that the state committed to in order to attain the PM2.5 standard in the South Coast Air Basin in 2014.

(4) A determination that the responsible Federal agencies have required all reasonable mitigation measures associated with their action; and

The District provided several comments on the Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR) to strengthen the mitigation measures included as part of the project, and the USACE and POLA revised the mitigation measures in response. We conclude that the project now includes all reasonable mitigation measures.

(5) Written documentation including all air quality analyses supporting the conformity determination;

The submittals of the 2007 AQMP and 2007 State Strategy contain detailed technical information documenting the emissions projections and modeling input and output upon which the plans are based. See, for example, the 2007 AQMP, Chapters 3 ("Base Year and Future Emissions") and 5 ("Future Air Quality"), and their related Appendices III and V, respectively.

Moreover, for the following reasons, District staff believes the 2007 South Coast SIP accommodates the NO_x and VOC emissions resulting from the Crude Oil Terminal project:

1) The emissions associated with the project were envisioned in the 2007 AQMP through the growth projection of ports expansion and construction activities provided by the Southern California Association of Governments (SCAG). The emissions growth projections were directly incorporated in the 2007 AQMP air quality attainment demonstrations.

2) The economic downturn provides an ample margin in which to accommodate the unanticipated emissions from the unforeseen projects in the Basin. To cite two examples of the effect of the economic downturn on the emissions projections in the 2007 AQMP:

   First, the long term forecast of cargo through the Ports of Los Angeles and Long Beach has been revised twice from the initial 2005 projection used in the 2007 AQMP to reflect the current economic setting. Surveyed reductions of throughput moving through the ports indicated reductions (not growth) of approximately 10 percent each year from 2007 through 2009 compared with 2006 totals. The updated long term cargo forecast released in July, 2009 by the American Association of Port Authorities estimates that twenty foot equivalent units (TEU) growth would decline 36.8 percent in 2010 and 38.5 percent in 2015 compared to the projections included in the 2007 AQMP. The updated projections indicate that goods movement will only match 2006 levels in 2014 and continue to operate at a lower than expected capacity beyond 2030. The real reduction in TEU movement through the ports translates to reduced emissions and lesser air quality impacts than projected in the attainment demonstrations.

   Second, the Federal Aviation Administration (FAA) recently revised its national growth projections downwards from previous estimates that were used in developing the 2007 AQMP. Based on the latest FAA forecasts, which now predict a 24 percent growth rate at LAX from 2002 to 2015, compared to the previous forecast of 36 percent, the 2007 AQMP overestimates NO_x emissions at LAX by roughly 435 tons per year.

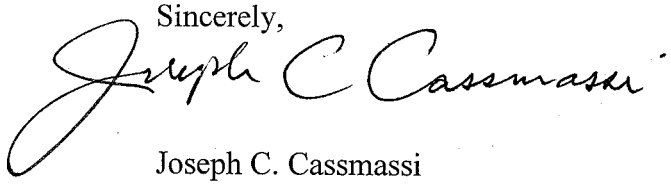
   Given the margin created from the economic downturn, staff believes the emissions increase in NO_x and VOC due to the Marine Terminal Crude Oil Terminal project are accommodated in the 2007 AQMP, even with the inclusion of the emissions from the other general conformity projects submitted to the District since the 2007 AQMP submittal.

3) The increase in construction emissions due to this project is a nominal portion of the total SCAB baseline emissions for the 2007 AQMP inventories and will result in a minimal impact to ambient air quality. Because of the economic downturn, the projected 2007 AQMP emissions have been not been realized and the revised projections lower regional estimated emissions. As a consequence, the project emissions are not expected to lead to an exacerbation of the regional air quality or jeopardize the regional air quality attainment demonstrations.

In conclusion, the District has concluded the Crude Oil Terminal project at the Port of Los Angeles would be accommodated by the 2007 South Coast SIP (i.e., 2007 AQMP and 2007 State Strategy), and that the 2007 South Coast SIP satisfies the individual elements for SIP revisions that may be relied upon for conformity determinations, as set forth in 40 CFR 93.158(a)(5)(i)(B).

If you have any questions, please contact me at 909-396-3155 or jcassmassi@aqmd.gov. , or contact Ms. Kathy Hsiao at (909) 396-3056 or khsiao1@aqmd.gov.

Sincerely,



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Earl Withycombe, CARB

Attachment E

Listing of Changes Made to the Draft General Conformity Determination

Listing of Changes Made to the Draft General Conformity Determination

E.1 Global Changes

The following changes were made throughout the general conformity determination:

- The cover page and all footers were revised to indicate that this document is now the "final" general conformity determination.

E.2 Specific Changes

The specific changes noted below indicated text additions with *italic font* and text deletions with ~~strikeout font~~.

- Cover Page, date changed: *June 1,* ~~February~~
- Page i: Deleted Sections 5.2.1.1 through 5.2.1.5 from the Table of Contents due to changes in Section 5.2.1.
- Page ii: Added Attachments D and E to list of Attachments:
  Attachment D Determination from SCAQMD that PLAMT Federal Action Conforms to the SIP
  Attachment E Listing of Changes Made to the Draft General Conformity Determination
- Page ii: Deleted Tables 5-1 through 5-3 from the List of Tables due to changes in Section 5.2.
- Section 1, 2nd paragraph, changed 2nd sentence (Page 1-1):
  This *final*~~draft~~ general conformity determination documents the evaluation of the Federal action, which includes all construction activity associated with the Project, with Section 176 (c) requirements of the Clean Air Act.
- Section 1, 2nd paragraph, added last sentence (Pages 1-1 and 1-2):
  Attachment D provides correspondence received from the South Coast Air Quality Management District (SCAQMD) with documentation supporting the conformity determination for the Federal action. Attachment E provides a list of the changes made to the draft general conformity determination to create this final general conformity determination.
- Section 1.2, 1st paragraph, added new 2nd sentence (Page 1-2):
  Parallel general conformity regulations at 40 C.F.R. Part 93 Subpart B apply in areas where EPA has not approved general conformity requirements to the state's implementation plan.

- Section 1.2, added new 3rd paragraph (Page 1-3):
  On April 5, 2010, EPA promulgated revised general conformity requirements at 40 C.F.R. Part 93 Subpart B (75 FR 17254). In the same action, EPA eliminated most of the general conformity requirements under 40 C.F.R. Part 51 Subpart W, because they were mostly duplicative of the requirements at 40 C.F.R. Part 93 Subpart B, and revised 40 C.F.R. § 51.851 to remove the obligation for states to include general conformity requirements in their implementation plans. The revised regulations will take effect on July 6, 2010.

- Section 2, 1st paragraph, changed 3rd and 4th sentences (Page 2-1):
  This *final*~~draft~~ general conformity determination is related specifically to those activities included in the Federal action addressed herein *which* pertain~~ing~~ to *those portions of* the Project *that require a USACE permit for* ~~*construction*selected by the Los Angeles Harbor Department (LAHD)~~. The Project and *the Federal action are*~~is~~ more fully described in Section 2.1.

- Section 2.1, 1st paragraph, changed 1st sentence (Page 2-1):
  The *Los Angeles Harbor Department (LAHD)*~~City of Los Angeles (City)~~ is undertaking the Project for the construction and operation of a new marine terminal at Berth 408 on Pier 400 (Marine Terminal) at POLA, new tank farm facilities with a total of 4.0 million barrels of capacity, and pipelines connecting the Marine Terminal and the tank farms to local refineries.

- Section 2.1, 2nd paragraph, changed 2nd sentence (Page 2-2):
  A USACE permit would be required for the Project to undertake the wharf work at Berth 408 on Pier 400, as identified in *the LAHD's*~~their~~ March 2004 application for a Department of the Army permit and their August 12, 2009 amendment to this application, and USCG approval might be required for the pipeline water crossing at the Pier 400 causeway bridge and the pipeline water crossing at the Dominguez Channel.

- Section 2.1, 3rd paragraph, changed 1st sentence (Page 2-2):
  As part of the environmental review of the Project, the USACE, in coordination with the *LAHD*~~City~~ and the USCG, has prepared this *final*~~draft~~ general conformity determination to demonstrate compliance with the general conformity requirements in support of the Federal action associated with the Project.

- Section 2.1, added footnote to Figure 2-1 (Page 2-3):
  [2] LAHD and the future tenant have been discussing reducing a portion of the storage capacity previously proposed at Tank Farm Site 1 and replacing it at Tank Farm Site 2, but the total combined storage capacity would be unchanged (4.0 million barrels).

- Section 2.1, Table 2-1, corrected phasing of crude oil storage tank construction at Tank Farm Site 2 and added footnote to Table 2-1 (Page 2-~~4~~):

  Tank Farm Construction – Site 2: Phase 1
  - Soil Stabilization
  - Construction
  - Tanks (*8*~~14~~-250,000 BBL)[a.]
  Tank Farm Construction – Site 2: Phase 2
  - Construction
  - Tanks (*6*~~3~~-250,000 BBL)[a.]

  [a.] *LAHD and the future tenant have been discussing reducing a portion of the storage capacity previously proposed at Tank Farm Site 1 and replacing it at Tank Farm Site 2, but the total combined storage capacity would be unchanged (4.0 million barrels).*

- Section 2.1, Page 2-6, 2nd-to-last paragraph, changed 1st and 3rd sentences:

  All of the mitigation measures that the USACE has relied upon in this *final*~~draft~~ general conformity determination are CEQA-related mitigation measures that *were*~~are being~~ expressly adopted by LAHD~~ and the City~~ in approving the overall Project and certifying the Final SEIR.

  The Project MMRP (LAHD 2008), which incorporates all of the mitigation measures that the USACE has relied upon in this *final*~~draft~~ general conformity determination as design features, describes LAHD's lead responsibility for administering the program, the timing of implementation, monitoring frequency, and actions indicating compliance.

- Section 2.1, added new last paragraph to section (Page 2-6):
  Finally, the emission factors for construction equipment will decrease into the future due to current CARB regulations (such as the in-use off-road diesel-fueled fleets rule, 13 C.C.R. Article 4.8) that have emission limits and reduction goals phased in over time. Therefore, even if the project construction schedule were to slip, the peak year construction emissions would not be higher than the emissions identified in Section 4 of this final general conformity determination.

- Section 2.2, 1st paragraph, changed last sentence (Page 2-7):
  The *LAHD*~~City~~ is the lead agency for the CEQA analysis documented in the SEIR.

- Section 2.2, 2nd paragraph, changed 5th sentence (Page 2-7):
  This *final*~~draft~~ general conformity determination is being published subsequent to the Final SEIS but prior to the Record of Decision that clarifies the Federal action.

- Section 3.1, 2nd paragraph, changed 4th sentence and added new 5th sentence (Page 3-1):
  On June 5, 2008, the Federal Highway Administration *(FHWA)* issued a finding that the 2008 RTP conforms to the applicable state implementation plan (i.e., transportation conformity determination). *Subsequently, SCAG has issued three amendments to the 2008 RTP and the FHWA has issued positive transportation conformity determinations for each amendment.*

- Section 3.3, Table 3-2, modified footnote a. for clarification:
  a. Federal action construction does not extend *into 2014 or later*~~beyond 2011~~; therefore, no comparisons to budgets for years beyond 2011 are included.

- Section 4.3, 2nd paragraph, changed 1st, 3rd, and 4th sentences (Page 4-3):
  The region in which the project is located has been *classified*~~designated~~ as a "severe" non-attainment area for the eight-hour O3 NAAQS, which carries a 25 tpy de minimis emission rate for NOx and VOC. However, the currently approved SIP (1997 AQMP, as amended in 1999) was developed to demonstrate attainment of the revoked one-hour O3 NAAQS by 2010. At that time the region had been *classified*~~designated~~ as an "extreme" nonattainment area for O3, which carries a 10 tpy de minimis emission rate for NOx and VOC. In addition, SCAQMD ~~has~~ requested re-*classification*~~designation~~ (bump up) to "extreme" nonattainment for the eight-hour O3 NAAQS in the 2007 AQMP*, and EPA approved the bump up which will be effective June 4, 2010.*

- Table 4-1, changed Footnote "a" (Page 4-4):
  a. U.S. EPA has~~ proposed to~~ reclassif*ied*~~y~~ the South Coast Air Basin as an "extreme" nonattainment area for the eight-hour ozone NAAQS *(75 FR 24409, May 5, 2010), effective June 4, 2010*~~(74 FR 43654, August 27, 2009)~~. ~~When finalized, t~~*T*his reclassification will lower the general conformity de minimis emission rate for NOx and VOC to 10 tpy. The Federal action associated with the PLAMT Crude Oil Marine Terminal, Tank Farm Facilities, and Pipelines project already requires a full general conformity evaluation under the "severe-17" classification; therefore, the ~~anticipated~~ change in classification would not change the requirement for, or analyses included in, the general conformity evaluation provided in this document.

- Section 4.5.2, 1st paragraph, changed 4th sentence (Page 4-5):
  Emissions related to operations *of the*~~at Berth 408 on Pier 400 and the larger~~ Project at POLA subsequent to the completion of the Federal action addressed herein are not included in the total of direct and indirect emissions associated with the Federal action because the USACE has determined that it has no legal authority to control those emissions-generating operational activities (i.e., USACE lacks continuing program responsibility over the Project once the construction activities in and over navigable waters of the U.S. are completed) (USACE 1994).

- Table 4-2, corrected phasing of crude oil storage tank construction at Tank Farm Site 2 from ~~14~~ to *8* in Phase 1 and from ~~3~~ to *6* in Phase 2, corrected the current General Conformity de minimis emission rate (tpy) for VOC and NOx from ~~10~~ tpy to *25* tpy, and added footnote b to table (Pages 4-6 and 4-7):
  [b.] LAHD and the future tenant have been discussing reducing a portion of the storage capacity previously proposed at Tank Farm Site 1 and replacing it at Tank Farm Site 2, but the total combined storage capacity would be unchanged (4.0 million barrels).

- Table 4-3, corrected title of project emissions row to include *VOC and CO* emissions, and added footnote a to table (Page 4-7):
  [a.] Annual emissions from the potential temporary piles (up to 12) identified in the USACE Special Public Notice dated February 19, 2010 (Draft General Conformity Determination and Additional Information Pertaining to Department of the Army Permit Application for the Pacific L.A. Marine Terminal LLC Crude Oil Terminal Project, Port of Los Angeles), would be less than 1 tpy for NO_x and less than 0.1 tpy for VOC. These additional emissions have not been included in the project total emissions in Table 4-3 because the need for these temporary piles is highly speculative at this time. The conformity determination provided in Section 5 will not be affected if these emissions are included.

- Section 4.5.4, 1st paragraph, added footnote to 1st sentence (Page 4-8):

  The total of direct and indirect emissions of VOC[4], CO, SOx, PM10, and PM2.5 are less than the general conformity de minimis threshold emission rates and the Federal action is not regionally significant for any of these pollutants.

  [4] If this Final General Conformity Determination were being made and published on or after June 4, 2010, the Federal action would require a determination for VOC since the predicted VOC emissions for 2011 exceed 10 tons per year. However, the publication date of this Final General Conformity Determination is June 1, 2010. Regardless, the evaluation presented below in Section 5.2.1 for NO_x would also be valid for VOC as both pollutants are O3 precursors and as such are treated similarly for SIP planning purposes.

- Section 5, 1st paragraph, changed 3rd sentence (Page 5-1):
  The approach to be taken to evaluate the Federal action relies on ~~a combination of~~ these available criteria, and the remainder of this section summarizes the findings to make the determination.

- Section 5.1.1, 3rd paragraph, changed 7th and 8th sentences (Page 5-2):
  Therefore, the disapprovals *neither*~~do not~~ trigger sanctions clocks nor EPA's obligation to promulgate a Federal implementation plan for lack of an approved SIP. *Because*~~Since~~ the 2003 AQMP rate-of-progress and attainment demonstrations were not approved by EPA, the 1997/1999 SIP remains the currently applicable SIP for O3.

- Section 5.1.1, 4th paragraph, added new last sentence (Page 5-2):
  On May 5, 2010 (75 FR 24409), EPA promulgated the reclassification of the SCAB to "extreme" nonattainment for O3, effective on June 4, 2010.

- Section 5.1.2, last paragraph, changed 1st sentence (Page 5-3):
  SCAQMD released the *final*~~draft~~ 2007 AQMP on June 1, 2007, and as noted above that AQMP formed the basis of a proposed SIP revision submitted to EPA.

- Section 5.2, rewrote entire opening paragraphs (Page 5-3):
  Under the general conformity regulations, a Federal action can be determined to conform to the applicable SIP for O3 if the action is specifically identified and accounted for in the SIP's attainment demonstration, if the total of direct and indirect emissions from the action are fully offset within the same nonattainment area by a federally enforceable measure, or if the state agency responsible for the SIP determines and documents that the total of direct and indirect emissions from the action can be accommodated within the SIP emissions budgets. The Federal action described herein is not specifically identified or accounted for in the approved SIP, and USACE does not plan to rely on emission offsets to demonstrate conformity. The following discussion summarizes a determination from the SCAQMD (Attachment D), the agency responsible for developing the SCAB portion of the SIP, that demonstrates the Federal action as described herein conforms to the SIP.

  ~~As noted in the preceding section, the most recent EPA-approved SIP at the time of the release of the final general conformity determination must be used for emission budget analyses. The 1997 AQMP together with supplemental information form the basis for the current, EPA-approved O3 SIP as noted in Section 5.1.2. However, the EPA may approve all or part of the 2007 AQMP for O3 (or other pollutants) before the final general conformity determination is published. Therefore, to avoid revisions to and/or recirculation of the draft and final general conformity determination, emissions for the Federal action presented in this section are compared to both the currently approved SIP emissions budgets and to the 2007 AQMP emissions budgets.~~

  ~~The emissions inventories developed by SCAQMD and fully documented in the AQMPs are delineated by source types. Table 5-1 provides a concordance between the emission source categories that characterize the Federal action and the emission source types in the AQMPs. In the following discussion, the term "NOx" should be understood to represent both NOx and NO2.~~

  ~~Table 5-1~~
  ~~Relationship of Federal Action Source Categories and AQMP Source Types~~
  [Deleted Table 5-1]
  ~~The source type "Commercial Boats/Ships" in the 1997 AQMP represents two separate subcategories of off-road equipment in the inventory, whereas the source type "Ships and Commercial Boats" in the 2007 AQMP represents a single combined subcategory of off-road equipment in the inventory. "Ships" are considered ocean-going marine vessels (e.g., container ships), and "commercial~~

~~boats" are considered commercial harbor craft (e.g., tugboats).~~

- Section 5.2.1, rewrote entire section (Pages 5-3 – 5-6):
  At the time that SCAQMD prepared the 1997 AQMP, LAHD had already announced its intention to undertake the Project, as evidenced by The 2020 Plan and the 1992 Deep Draft Final EIS/EIR (see Section 2.2). In fact, SCAQMD acknowledged The 2020 Plan on page III-1-12 in Appendix 3 of the 1997 AQMP. For this reason, it is evident that the 1997 AQMP should contain estimates of emissions for construction activities under any of the build alternatives, including the Federal action addressed herein. However, as noted by SCAQMD (Attachment D), no specific ports projects are identified or accounted for in the approved SIP for the SCAB (i.e., 1997/99 AQMP).

  As noted in the preceding section, the most recent EPA-approved SIP at the time of the release of the final general conformity determination must be used for emission budget analyses. The 1997 AQMP together with supplemental information form the basis for the current, EPA-approved O3 SIP as noted in Section 5.1.2. However, as noted by SCAQMD (Attachment D), EPA believes that current emissions estimates for the SCAB already exceed the emissions budgets in the approved SIP. Therefore, SCAQMD cannot determine or document that the total of direct and indirect emissions for the Federal action, together with all other emissions in the nonattainment area, would not exceed the emissions budgets specified in the approved SIP.

  The general conformity evaluation and findings below are based on a determination by SCAQMD (Attachment D) that the 2007 AQMP represents a written commitment for a SIP revision that accommodates the Federal action.

  Specifically, at 40 C.F.R. § 51.858(a)(5)(i)(B), where the State determines that the total of direct and indirect emissions from a Federal action, together with all other emissions in the nonattainment area, would exceed the emissions budgets specified in the approved SIP, the State can make a written commitment to EPA to accommodate a specific project's emissions via a SIP revision. Such a SIP revision would include:

  (1) a specific schedule for adoption and submittal of a revision to the SIP which would achieve the needed emission reductions prior to the time emissions from the Federal action would occur; (2) identification of specific measures for incorporation into the SIP which would result in a level of emissions which, together with all other emissions in the nonattainment or maintenance area, would not exceed any emissions budget specified in the applicable SIP; (3) a demonstration that all existing applicable SIP requirements are being implemented in the area for the pollutants affected by the Federal action, and that local authority to implement additional requirements has been fully pursued; (4) a determination that the responsible Federal agencies have required all reasonable mitigation measures associated with their action; and (5) written documentation including all air quality analyses supporting the conformity determination.

  As noted by SCAQMD (Attachment D), it believes the necessary SIP revision called for

under 40 C.F.R. §51.858(a)(5)(i)(B) has already been satisfied through submittal of the 2007 AQMP as a proposed SIP revision for the SCAB and that the 2007 AQMP accommodates the O3 precursor emissions from the Federal action.

Regarding item (1) above, a schedule for adoption and submittal of a SIP revision is unnecessary because the necessary SIP revisions have already been submitted; see discussion in Section 5.1.1.

Regarding item (2) above, Chapter 4 of the 2007 AQMP sets forth new and amended control measures and strategies intended to meet the requirement to demonstrate reasonable further progress and attainment of the 1997 eight-hour O3 NAAQS. The USACE believes that, when implemented, these measures would result in emissions from the Federal action, along with all other emissions in the nonattainment area, that would not exceed any emissions budget.

Regarding item (3) above, Chapter 7 of the 2007 AQMP includes specific discussions of the issue of plan implementation; also, CARB is acting on its current SIP commitments as evidenced in recent submittals to EPA. The USACE believes that these conditions demonstrate appropriate implementation of existing SIP requirements.

Regarding item (4) above, SCAQMD believes that the Project, as described in the Final SEIS/SEIR, now includes all reasonable CEQA-related mitigation measures by incorporating SCAQMD's comments on mitigation included in the Draft SEIS/SEIR.

Regarding item (5) above, in addition to the detailed technical documentation in the 2007 AQMP that supports the proposed SIP revision, the USACE understands that SCAQMD believes the 2007 AQMP accommodates the emissions from the Federal action. In particular, the emissions associated with the Project were envisioned in the 2007 AQMP through the growth projection of port expansion and construction activities provided by SCAG. SCAG recently noted (SCAG 2007) that current and projected activity levels at the Port of Los Angeles and Port of Long Beach are routinely submitted by the ports to SCAG and incorporated into the RTP. Specifically, SCAG indicated that Port of Los Angeles forecasted activity levels have been incorporated into the 1994, 1998, 2001, 2004, and 2008 RTPs. Because the 2004 RTP was used to develop the 2007 AQMP emission inventories (SCAQMD 2007, Appendix III) and growth on the marine terminal project site has been part of those plans, it is evident that the 2007 AQMP should contain estimates of emissions for construction activities under any of the build alternatives, including the Federal action addressed herein.

In addition, the current economic recession is providing margin to accommodate unanticipated emissions in the SCAB. The recession has produced lower cargo handling activities at the Ports of Los Angeles and Long Beach. This economic downturn has provided temporary emission reductions that will "offset" near-term increases in construction emissions from the proposed Federal action. Annual Port of Los Angeles container volume dropped each calendar year since the peak in 2006 of 8.47 million

twenty-foot equivalent units (TEUs) (POLA 2010). By 2008, container volume had dropped by more than 600,000 TEUs/year from 2006, approximately a 7 percent reduction (POLA 2010). The 2009 container volume was 14 percent below the 2008 volume and 20 percent below the 2006 volume (POLA 2010). These reductions in container volume equate to substantial de facto reductions in emissions and, more importantly, are counter to the growth rates assumed in either the approved SIP or 2007 AQMP. While the growth rates assumed in the SIP or AQMP may resume in future years, it will proceed from a lower baseline than before, and there is no evidence at this time to expect that growth rates will accelerate to regain the projected emission levels included in either the approved SIP or 2007 AQMP for the years addressed in this evaluation.

The most recent emission inventory for the Port of Los Angeles is for the 2008 calendar year (POLA 2009), which indicates that the Port of Los Angeles NO_x emissions averaged 2 tons per 1000 TEUs. The 2009 container volume was 20 percent below the 2006 volume, representing a reduction of over 1.7 million TEUs and a reduction of 3,400 tons of NO_x per year. The container volumes at the Ports are not expected to grow again until after 2010. This substantial reduction in container volumes would more than compensate for the entire Federal action emissions of roughly 190 tons of NO_x over the three years of construction.

Lastly, the increase in construction emissions due to the Project is a nominal portion of the total baseline emissions for the 2007 AQMP emissions inventories and will results in a minimal impact to ambient air quality in the SCAB.

Based on the foregoing reasons, SCAQMD has concluded (Attachment D) that the emissions from the Federal action addressed herein would be accommodated by the proposed 2007 SIP revision and that that SIP revision may be relied on by the USACE to make a positive general conformity determination. Therefore, the Federal action conforms to the approved SIP through the SCAQMD's written commitment for a SIP revision and satisfies the conformity demonstration requirement under 40 C.F.R. § 51.858(a)(5)(i)(B).

~~At the time that SCAQMD prepared the 1997 AQMP, LAHD had already announced its intention to undertake the Project, as evidenced by The 2020 Plan and the 1992 Deep Draft Final EIS/EIR (see Section 2.2). In fact, SCAQMD acknowledged The 2020 Plan on page III-1-12 in Appendix 3 of the 1997 AQMP. For this reason, it is evident that the 1997 AQMP should contain estimates of emissions for construction activities under any of the build alternatives, including the Federal action addressed herein.~~

~~SCAG recently noted (SCAG 2007) that current and projected activity levels at the Port of Los Angeles and Port of Long Beach are routinely submitted by the ports to SCAG and incorporated into the RTP. Specifically, SCAG indicated that Port of Los Angeles forecasted activity levels have been incorporated into the 1994, 1998, 2001, 2004, and 2008 RTPs. Since the 2004 RTP was used to develop~~

~~the 2007 AQMP emission inventories (SCAQMD 2007, Appendix III) and growth on the marine terminal project site has been part of those plans, it is evident that the 2007 AQMP should contain estimates of emissions for construction activities under any of the build alternatives, including the Federal action addressed herein.~~

~~The general conformity evaluation and findings will be based on the following:~~
~~☐ Comparison of project emissions with EPA approved 1997/1999 SIP budgets, indicating project emissions are a small fraction of the budget.~~
~~☐ Comparison of project emissions with CARB approved 2007 AQMP budgets, indicating project emissions are a small fraction of the budget.~~
~~☐ Activity projections used to develop the 1997/ 1999 SIP budgets and 2007 AQMP budgets included Port growth.~~
~~☐ Recession induced emission reductions offset near-term construction emissions from the project.~~
~~☐ The 2007 AQMP represents a written commitment for a SIP revision that includes the Federal action.~~

~~5.2.1.1 Comparison of Project Emissions with Approved SIP Budgets~~

~~The general conformity regulations require evaluating the total of direct and indirect emissions for the Federal action for the mandated attainment year (2021), the year of maximum emissions (2010), and any years for which the SIP identifies an emissions budget (40 C.F.R. § 51.859(d)). Because the construction will be complete well before 2021, there is no analysis of emissions for that year in this evaluation. For the years of construction planned under the Federal action, the approved O3 SIP includes emissions budgets for 2010, while the 2007 AQMP includes emissions budgets for 2010 and 2011. For those years requiring a quantitative evaluation but for which an emissions budget does not exist in either the approved SIP or the 2007 AQMP, a budget was estimated by performing a linear interpolation using the two years of emissions budget data most closely bracketing the year of interest.~~

- ~~Table 5-2 summarizes a comparison of estimated NOx emissions from construction activities under the Federal action to the applicable source types under the approved SIP, for the years noted in Table 3-1 above. It should be noted that the emissions for those source types taken from the approved SIP represent more than construction-related emissions since these source types are not exclusive to construction equipment and activities. Because the SIP for the SCAB has to accommodate many planned and some unplanned construction projects, the construction-related emissions inventories included in the SIP are very substantial and account for emissions growth. Despite the fact that the Federal action would require a substantial program of construction, one can note that the construction emissions from the Federal action would be very small compared to the emissions inventories in the SIP (i.e., typically less than 0.18%~~

~~relative contributions). For that reason, it is reasonable to assume that the emissions from construction activities under the Federal action can be accommodated in future emissions growth from the construction sector within the approved SIP. Therefore, it can be inferred that the construction NOx emissions for the Federal action, taken together with NOx emissions for all other construction sources in the SCAB, would not exceed the NOx emissions budgets for construction-related source types specified in the approved SIP (criterion at 40 C.F.R. § 51.858(a)(5)(i)(A)).~~

~~Table 5-2~~
~~Comparison of the Federal Action NOx Emissions forConstruction to Approved SIP Emission Budgets for Construction-Related Source Types~~
~~[Deleted Table 5-2]~~

~~5.2.1.2 Comparison of Project Emissions with 2007 AQMP Budgets~~

~~Parallel to the discussion in Section 5.2.1.1 above, if the 2007 AQMP (e.g., reasonable further progress schedules, attainment and maintenance demonstrations, and contingency measures) were to be approved by EPA as the applicable SIP, the general conformity regulations would require evaluating the total of direct and indirect emissions for the Federal action for the mandated attainment year for a severe-17 nonattainment area (2021), the year of maximum project emissions (2010), and any years for which the SIP identifies an emissions budget (40 C.F.R. § 51.859(d)). Because the construction would finish well before 2021, there is no analysis of emissions for that year in this evaluation. For the years of construction planned under the Federal action, the applicable emission budgets in the 2007 AQMP include 2010 and 2011.~~

~~Table 5-3 summarizes a comparison of estimated NOx emissions from construction activities under the Federal action to the applicable source types under the 2007 AQMP, for the years noted in Table 3-2 above. It should be noted that the emissions for those source types taken from the 2007 AQMP represent more than construction-related emissions since these source types are not exclusive to construction equipment and activities. Because the SIP for the SCAB has to accommodate many planned and some unplanned construction projects, the construction-related emissions inventories included in the AQMP are very substantial and account for emissions growth. Despite the fact that the Federal action would require a substantial program of construction, one can note that the construction emissions from the Federal action would be very small compared to the emissions inventories in the AQMP (i.e., typically less than 0.12% relative contributions). For that reason, it is reasonable to assume that the emissions from construction activities under the Federal action can be accommodated in future emissions growth from the construction sector within the 2007 AQMP. Therefore, it can be inferred that the construction NOx emissions for the Federal action, taken together with NOx emissions for all other construction sources in the~~

~~SCAB, would not exceed the NOx emissions budgets for construction-related source types specified in the 2007 AQMP (SCAQMD 2007, included in Appendix III).~~

~~Table 5-3~~
~~Comparison of the Federal Action NOx Emissions for Construction to 2007 AQMP Emission Budgets for Construction-Related Source Types~~
~~[Deleted Table 5-3]~~

~~5.2.1.3 Port Growth Included in Regional Transportation Plans~~

~~As provided by state law (California Health and Safety Code sections 40464, 40465), SCAG develops the activity factors (growth rates) that are used to develop the emission inventories used in air quality plans for Los Angeles County and the SCAB. In addition, SCAG's 2004 Interim Regional Transportation Plan (RTP) growth projections used in the development of the 2007 AQMP and the 2008 RTP directly incorporated the projected transportation-related emissions growth from POLA projects into its regional assessment (SCAG 2007). While the temporary construction emissions from the Project were not included in the 2007 AQMP as a line item, SCAG included the emissions as a component of its County- and Basin-wide construction growth projections that were used in the 2007 AQMP. The projected growth rates developed by SCAG for the RTPs and the associated AQMPs are not tied to specific construction categories but to the overall projected change in construction activities for County and Basin levels. SCAG has affirmed that the respective growth rates for POLA construction activity were incorporated in each of the RTPs (SCAG 2007).~~

~~5.2.1.4 Recession-Induced Emission Reductions at POLA~~

~~The current economic recession has produced lower cargo handling activities at the Ports of Los Angeles and Long Beach. This economic downturn has provided temporary emission reductions that will "offset" near-term increases in construction emissions from the proposed Federal action. Annual Port of Los Angeles container volume dropped each calendar year since the peak in 2006 of 8.47 million twenty-foot equivalent units (TEUs) (POLA 2010). By 2008, container volume had dropped by more than 600,000 TEUs/year from 2006, approximately a 7 percent reduction (POLA 2010). The 2009 container volume was 14 percent below the 2008 volume and 20 percent below the 2006 volume (POLA 2010). These reductions in container volume equate to substantial de facto reductions in emissions and, more importantly, are counter to the growth rates assumed in either the approved SIP or 2007 AQMP. While the growth rates assumed in the SIP or AQMP may resume in future years, it will proceed from a lower baseline than before, and there is no evidence at this time to expect that growth rates will accelerate to regain the projected emission levels included in either the approved SIP or 2007 AQMP for the years addressed in this evaluation.~~

~~The most recent emission inventory for the Port of Los Angeles is for the 2008 calendar year (POLA 2009), which indicates that the Port of Los Angeles NOx emissions averaged 2 tons per 1000 TEUs. The 2009 container volume was 20 percent below the 2006 volume, representing a reduction of over 1.7 million TEUs and a reduction of 3,400 tons of NOx per year. The container volumes at the Ports are not expected to grow again until after 2010. This substantial reduction in container volumes would more than compensate for the entire Federal action emissions of roughly 190 tons of NOx over the three years of construction.~~

~~5.2.1.5 State SIP Revision~~

~~In the general conformity regulations, at 40 C.F.R. § 51.858(a)(5)(i)(B), the State can make a written commitment to EPA to incorporate a specific project's emissions into the SIP via a SIP revision. Such a SIP revision would include:~~

~~(1) a specific schedule for adoption and submittal of a revision to the SIP which would achieve the needed emission reductions prior to the time emissions from the Federal action would occur; (2) identification of specific measures for incorporation into the SIP which would result in a level of emissions which, together with all other emissions in the nonattainment or maintenance area, would not exceed any emissions budget specified in the applicable SIP; (3) a demonstration that all existing applicable SIP requirements are being implemented in the area for the pollutants affected by the Federal action, and that local authority to implement additional requirements has been fully pursued; (4) a determination that the responsible Federal agencies have required all reasonable mitigation measures associated with their action; and (5) written documentation including all air quality analyses supporting the conformity determination.~~

~~Short of a written document from the State specific to the Project, the 2007 AQMP meets all of the requirements laid out above. The Federal action, through growth projections for Port of Los Angeles projects, was included in the 2007 AQMP, which represents a SIP revision incorporating the project. The 2007 AQMP includes all of the necessary elements for the requested reclassification of the SCAB to "extreme" nonattainment for the eight-hour O3 NAAQS (74 FR 43654). Therefore, the Federal action conforms to the approved SIP through the 2007 AQMP SIP revision and satisfies the conformity demonstration requirement under 40 C.F.R. § 51.858(a)(5)(i)(B).~~

- Section 6, 1st paragraph, changed 6th sentence (Page 6-1):
  Based on CEQA provisions that mitigation measures be required in, or incorporated into, the project (14 C.C.R. § 15091(a)(1)), the *LAHD*~~City~~ will implement, maintain, monitor, and enforce these CEQA-related air quality

mitigation measures pursuant to the MMRP which are included in the certified Final SEIR; see Section 2.1 for more information on the CEQA-related mitigation measures.

- Section 7, changed various sentences in 1st three paragraphs (Page 7-1):
  To support a decision concerning the Federal action, the USACE is issuing this *final*~~draft~~ general conformity determination for public *disclosure purposes*~~ review and comment. The USACE will also make public its final general conformity determination for this action~~.

  7.1 Draft General Conformity Determination

  ~~At a minimum, t~~*T*he USACE~~ is~~ provid*ed*~~ing~~ copies of th*e*~~is~~ draft general conformity determination to the appropriate regional offices of EPA, USCG, as well as to CARB, SCAQMD, and SCAG, and provid*ed*~~ing~~ opportunity for a 30-day review. The USACE~~ is~~ also plac*ed*~~ing~~ a notice in a daily newspaper of general circulation in the SCAB announcing the availability of th*e*~~is~~ draft general conformity determination and request*ed*~~ing~~ written public comments for a 30-day period. *While not required, the USACE also published in the Federal Register a Notice of Availability of the Draft General Conformity Determination; this was concurrent with other noticing. No*~~For any~~ member of the public request*ed*~~ing~~ a copy of th*e*~~is~~ draft general conformity determination, *but* the USACE *would have*~~will~~ provide*d* ~~such party~~ a copy *to any party requesting one*.

  7.2 Final General Conformity Determination

  At a minimum, the USACE will provide copies of *this*~~its~~ final general conformity determination to the appropriate regional offices of EPA, USCG, as well as to CARB, SCAQMD, and SCAG, within 30 days of its promulgation. The USACE will also place a notice in a daily newspaper of general circulation in the SCAB announcing the availability of *this*~~its~~ final general conformity determination within 30~~ days of its promulgation~~. *Moreover, the USACE expects to publish in the Federal Register a Notice of Availability of this final general conformity determination*. As part of the general conformity evaluation, the USACE will document its responses to all comments received on the draft general conformity determination and will make both the comments and responses available upon request by any person within 30 days of *making*~~the promulgation of~~ th*is*~~e~~ final general conformity determination and execution of the ROD.

- Section 8, deleted 2nd and 3rd bulleted points on Page 8-1:

  ~~□The Federal action was contemplated in The 2020 Plan prepared for USACE and LAHD, and USACE believes growth-induced construction emissions related to implementing The 2020 Plan are incorporated into the approved SIP because the SCAQMD utilized the growth factors for shipping anticipated to occur at the~~

~~San Pedro Bay Ports taken from The 2020 Plan in developing its inventory for shipping emissions in the 1997 AQMP.~~

~~☐ The Federal action conforms to the SIP for NOx (as an O3 precursor) because the net emissions associated with the Federal action, taken together with all other NOx emissions in the SCAB, would not exceed the emissions budgets in the approved SIP for the years subject to the general conformity evaluation and satisfies the conformity demonstration requirement under 40 C.F.R. § 51.858(a)(5)(i)(A).~~

- Section 8, revised 4th bulleted point on Page 8-1:
~~The~~*SCAQMD has determined and documented that the O3 precursors (NOx and VOC) from the* Federal action~~, along with all of the Port of Los Angeles projects, were included~~ *can be accommodated* in the 2007 AQMP, which represents a written commitment from CARB and SCAQMD for a SIP revision incorporating the Project. The 2007 AQMP includes all of the necessary elements for ~~the requested reclassification to "extreme" nonattainment for the eight-hour O3 NAAQS as noted by EPA (74 FR 43654) . Therefore, the Federal action conforms to the purpose of the SIP through the proposed 2007 AQMP SIP revision and satisfies the conformity demonstration requirement~~ *a SIP revision that satisfies the conformity demonstration requirement* under 40 C.F.R. § 51.858(a)(5)(i)(B).

- Section 9, revised 1st reference to cite 40 C.F.R. Part 93, Subpart A instead of Part 51, Subpart T for the Clean Air Act general conformity regulations (Page 9-1): 40 C.F.R. Part *93*~~51~~ Subpart *A*~~T~~. Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws.

- Section 9, added reference for general conformity regulation revisions (Page 9-1): *75 FR 17254. Revisions to the General Conformity Regulations; Final Rule. April 5, 2010.*

- Section 9, added reference for South Coast Air Basin reclassification (Page 9-1): *75 FR 24409. Designations of Areas for Air Quality Planning Purposes; California; San Joaquin Valley, South Coast Air Basin, Coachella Valley, and Sacramento Metro 8-Hour Ozone Nonattainment Areas; Reclassification. May 5, 2010.*

- Attachment A, corrected phasing of crude oil storage tank construction at Tank Farm Site 2 from ~~14~~ to *8* for Phase 1 and from ~~3~~ to *6* for Phase 2 in Table 1 and in Exhibits A.3 and A.4.

- Added Attachment D - Determination from SCAQMD that PLAMT Federal Action Conforms to the SIP.

- Added Attachment E - Listing of Changes Made to the Draft General Conformity Determination.