

Appendix A-4

Final Clean Air Act Conformity Determination for the Port of Long Beach Middle Harbor Redevelopment Project

This page intentionally left blank.

Appendix A-4

Final Clean Air Act Conformity Determination for the Port of Long Beach Middle Harbor Redevelopment Project

1.0 INTRODUCTION

This appendix includes a draft Clean Air Act (CAA) general conformity determination of the federal action as it relates to the Middle Harbor Redevelopment Project (Project), as proposed by the Port of Long Beach (POLB) in the “*Final Environmental Report (FEIR)/Final Environmental Impact Statement (FEIS) for the Middle Harbor Redevelopment Project*”.

In accordance with requirements of Section 176 (c) of the Clean Air Act (CAA) (42 U.S.C. 7506(c)), since the Project would take place in a nonattainment area, a general conformity determination must be performed by the lead federal agency to ensure that it conforms with the CAA before the action is approved. The U.S. Army Corps of Engineers (USACE) is the lead federal agency under the National Environmental Policy Act (NEPA). Included in this appendix is the conformity analysis for areas affected by the proposed federal actions, including a conformity determination for the South Coast Air Basin (SCAB) in southern California.

2.0 CLEAN AIR ACT CONFORMITY REQUIREMENTS

2.1 Introduction

Section 176(c) of the CAA requires that federal agency actions be consistent with the CAA and with any approved air quality management plan (state implementation plan [SIP]) that are required under Section 110 (a) of the CAA (42 U.S.C. 7410(a)). The U.S. Environmental Protection Agency (EPA) promulgated regulations codified in 40 Code of Federal Register (C.F.R.) Part 93, titled “*Determining Conformity of Federal Actions to State or Federal Implementation Plans*”. It contains two Subparts”: (1) Transportation Conformity (Subpart A), and (2) General Conformity (Subpart B). The following discussion discusses these two regulations as they apply to the Federal action portions of the Project and Alternative 2.

2.2 Transportation Conformity Requirements

The Transportation Conformity Rule was promulgated by EPA on November 24, 1993 at 40 C.F.R. Part 93 Subpart A to address federally assisted transportation plans, programs, and

projects, which are developed, funded, or approved by the United States Department of Transportation (DOT), and by metropolitan planning organizations (MPOs) or other recipients of funds under title 23 U.S.C. or the Federal Transit Laws (49 U.S.C. Chapter 53). This subpart sets forth policy, criteria, and procedures for demonstrating and assuring conformity of such activities to an applicable implementation plan developed pursuant to Section 110 and Part D of the CAA. These regulations have subsequently been revised several times since they were first issued; most recently on August 15, 1997. On September 9, 1994, the South Coast Air Quality Management District (SCAQMD), which oversees air quality management in the SCAB of California, adopted these regulations by reference as new Rule 1902. The SCAQMD has amended Rule 1902 since its original issuance (most recently on August 14, 1998).

Although 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. The Southern California Association of Governments (SCAG), which is the regional MPO, has indicated that the Project is not regionally significant and also indicated that the POLB’s growth in truck and automobile traffic is accounted for in the 2008 Regional Transportation Plan (RTP) (SCAG 2009, Attachment A-4.1). Federal agency actions affecting airports, harbors, or freight rail facilities would normally be subject to the General Conformity Rule and not the Transportation Conformity Rule. Consequently, it is not necessary to include on-road emissions associated with construction material deliveries and on-road debris hauling in the general conformity evaluation, since this portion of the Federal action is considered to conform to the State Implementation Plan (SIP) (40 C.F.R. § 93.158(a)(5)(ii)).

2.3 General Conformity Requirements

The General Conformity Rule was promulgated by EPA on November 30, 1993 at 40 C.F.R. Part 93

Subpart B “*Determining Conformity of General Federal Actions to State or Federal Implementation Plans*” for all federal activities except those covered under transportation conformity. The SCAQMD adopted these regulations on September 9, 1994 by reference as SCAQMD Rule 1901.

The general conformity regulations apply to a federal action in a nonattainment or maintenance area (an attainment area reclassified from a previous nonattainment status and required to prepare an air quality maintenance plan). Conformity requirements apply only to nonattainment and maintenance pollutants; emissions of attainment pollutants are exempt from conformity analyses. The conformity determination process is intended to demonstrate that a proposed Federal action:

- Will not cause or contribute to new violations of a national ambient air quality standard (NAAQS);
- Interfere with provisions in the applicable SIP for maintenance of any NAAQS;
- Will not increase the frequency or severity of existing violations of any standard; or
- Will not delay the timely attainment of any standard.

Analyses required by the general conformity rule focus on the net increase in emissions compared to ongoing historical conditions. Existing SIPs are presumed to have accounted for routine, ongoing federal agency activities. Conformity analyses are further limited to those direct and indirect emissions over which the federal agency has continuing program responsibility and control. General conformity analyses are not required to analyze emission sources that are beyond the responsibility and control of the federal agency. Conformity determinations are not required to address emissions that are not reasonably foreseeable or reasonably quantifiable.

2.4 General Conformity Analysis Procedure

The EPA 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. § 93.153(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. 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. However, if the General Conformity regulations do apply to a Federal action, the regulating Federal agency taking the action must make its own conformity determination in accordance with the criteria and procedures in the implementing regulations; publish a draft determination of general conformity for public review; consider comments from interested parties; and then publish the final determination of general conformity.

3.0 DESCRIPTION OF THE FEDERAL ACTION

The Project is part of a continued effort to optimize and expand Port facilities to efficiently accommodate increasing volumes of cargo. The Project would consolidate and expand the existing 294-acre Project site, consisting of the Pier E terminal (170 acres), the Pier F terminal (101 acres), 18 acres of underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard, and the Berth E24 subsided oil area (five acres), into a single, modern, 345-acre container terminal. The Project would include a berth depth of -55 feet mean lower low water level (MLLW) to accommodate the current and expected future generations of cargo vessels and to support modernized operations. The Project would incorporate environmental practices and equipment pursuant to the Port’s Green Port Policy and the San Pedro Bay Ports (SPBPs) Clean Air Action Plan (CAAP).

The Project would be constructed over a 10-year timeframe (2009 through 2019) with final Project build out in 2019. It involves widening Slip 3 and excavation at Berth F201, filling Slip1 and portions of East Basin, demolition and reconstruction of wharves, construction of a new Berth E23, development of new container terminal facilities on the new landfills, improvement of adjacent backlands, and modifications to transportation systems on land.

The proposed Federal action assessed for general conformity is the portion of the Project that requires the USACE to issue a permit for discharges of fill material into waters of the U.S. and dredging and demolition/construction of structures in navigable waters of the U.S. The Project Alternatives to the 345-Acre Alternative (the Project; Alternative 1) include a 315-Acre Alternative (Alternative 2), the Landside Improvements Alternative (Alternative 3), which is the same as the NEPA Baseline, and the No

Project Alternative (Alternative 4). The Landside Improvements Alternative and No Project Alternative would have no in-water or over-water activities, and therefore would require no Federal permit from the USACE; nor would either alternative have any other Federal involvement. Thus, the General Conformity Regulation does not apply to Alternatives 3 and 4.

Project activities not considered as part of the proposed Federal action for this conformity analysis include (1) proposed modifications to existing backlands and upland areas and (2) proposed operational activities. These activities would occur whether or not the USACE issues the permit needed to complete the proposed Federal action. The Corps permit for the Federal action and any conditions therein would only apply to those in- and over-water activities previously described. The USACE would have no continuing program responsibility over the ongoing operations of the facility. Thus, the emissions associated with these activities would be beyond the practicable control of the USACE and they would not maintain control over these activities due to continuing program responsibility. Furthermore, emissions associated with operational activities would be less than the NEPA baseline. This determination is consistent with USACE policy, including the April 20, 1994 guidance memorandum issued by the USACE Chief Counsel regarding the general conformity rule and its applicability to the USACE Regulatory Program and Civil Works projects (USACE 1994).

3.1 Location

The proposed Project site (Figure A-4-1) is located in the Middle Harbor, Northeast Harbor, and Southeast Harbor Planning Districts within the highly industrialized inner Port complex of the Port of Long Beach, Los Angeles County, California. The Project comprises Piers D, E, and F and is bordered by Pier D Street and Ocean Boulevard to the north, Pico Avenue to the south, and the Back Channel to the west. The Federal portion of the Project includes Slip 1, Slip 3, the eastern portion of East Basin, and Berths D28-31, E23-27, E11-13, F1-4, and F6-10. Modifications to the backlands associated with the berths do not require any Federal permit, funding, or involve any other Federal interest.

3.2 General Project Description

Section 1.6 of the Final EIR/EIS provides detailed descriptions of the Project, including construction activities, which would include the following components:

- Demolition of Berths D29-31, E12-13, E23-26, and F1-10;
- Excavation of approximately 710,000 cubic yards (cy) of material from Berths D29-31 and E24-26 to widen Slip 3 by about 117 feet, excavation of about 580,000 cy at Berth F201, and dredging approximately 680,000 cy to deepen portions of Slip 3 to -55 feet Mean Lower Low Water (MLLW). The excavation would create approximately 10.7 acres of marine habitat;
- Construction of rocky dikes along the excavated berths in Slip 3, at Berth F201, for extension of Berth E24, and to contain the stages of fill in Slip 1 and East Basin (1,404,000 tons of rock);
- Abandonment and relocation of the Tidelands oil well facilities and pipelines on the southwest portion of Pier E, and removal of the Baker Commodities, Inc. facilities on Pier D;
- Fill of approximately 25.6 acres in Slip 1, 5.4 acres at Berth E24, and 34.3 acres in East Basin using about 680,000 cy of material dredged from Slip 3, 1,290,000 cy of material excavated from Pier D and Berth F201, and an additional 6,730,000 cy of fill material imported from the outer Harbor District;
- Extension of Berth E24 southward and construction of a new Berth E23 south of E24. This includes demolition of approximately 550 linear feet (lf) of wharf and bulkhead at E24, and construction of 2,450 lf of new wharf;
- Construction of a new 66 kilovolt(kV) substation on Pier E;
- Realignment of the mainline track at Ocean Boulevard/Harbor Scenic Drive by removing about 4,000 feet of track, realigning 4,000 feet of track, and constructing about 6,000 feet of new track. Approximately 1,700 feet of Harbor Scenic Drive would also be relocated;
- Construction of Pier F storage yard and tracks (approximately 8,000 feet of new track);
- Redevelopment of Berths E25-26 by demolishing and reconstructing about 1,800 lf of existing wharf, and wharf improvements at Berth E27;
- Construction of container terminal facilities on the fill in Slip 1 and East Basin;

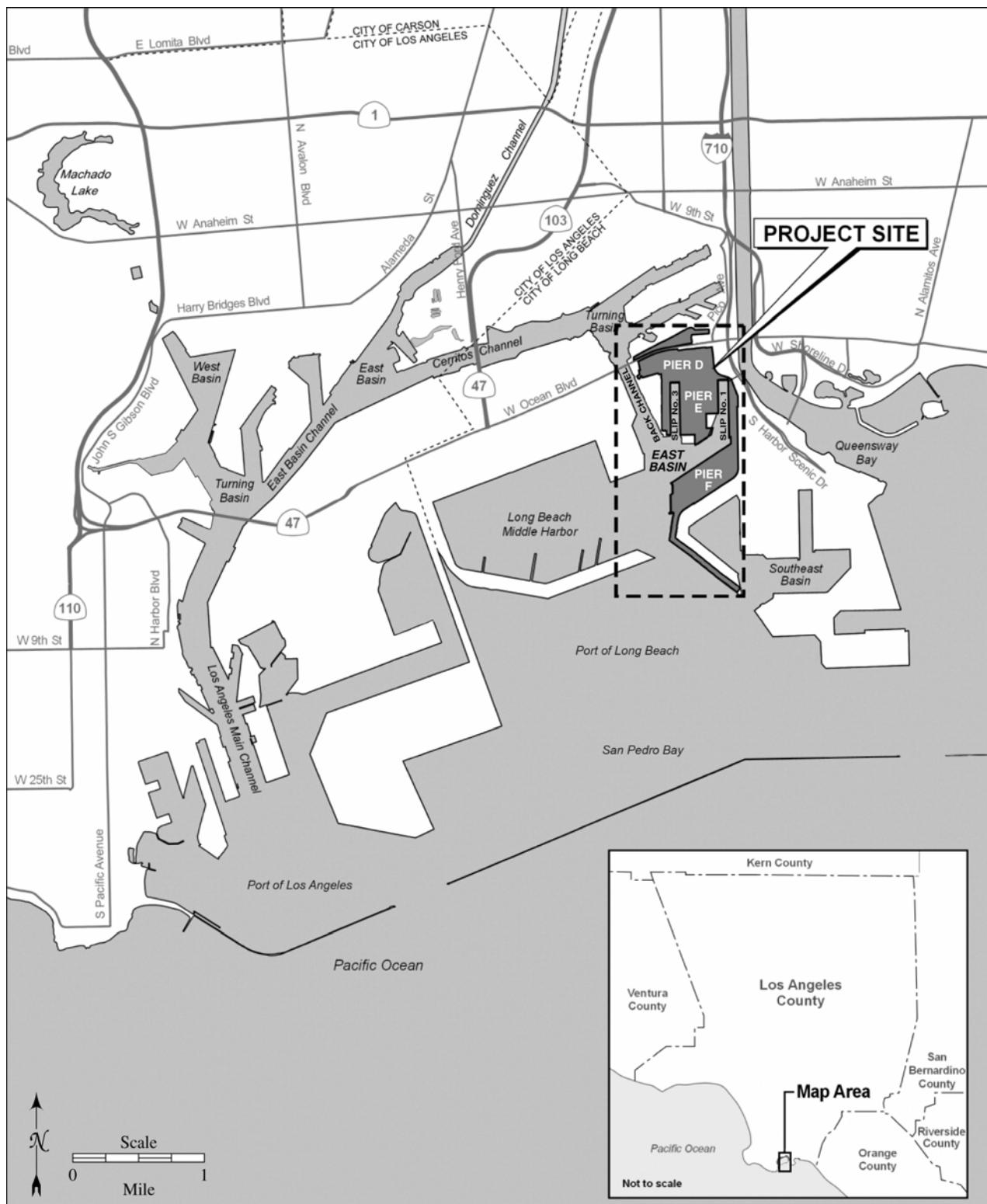


Figure A-4-1. Project Vicinity Map

- Demolition of Seaside Railyard on Pier E and redevelop that area and adjacent
- Redevelopment of 18 acres north of the Gerald Desmond Bridge and Ocean Boulevard;
- Expansion of the Pier F intermodal railyard; and
- Redevelopment of the existing Pier F, including grading, paving, fencing, lighting, buildings and other infrastructure, utilities, tail track, and a loop road.

Components of the Project that comprise the Federal Action and would require USACE permit approval include wharf demolition and reconstruction at Berths E23-26, new wharf construction at Berth E23, dredging in Slip 3, placement of fill in Slip 1 and East Basin, and construction of rocky dikes for containment of fill and as part of wharf reconstruction. Any contaminated material used for fill would be placed in an engineered Confined Disposal Facility (CDF) within the proposed fill. The Port does not intend to use contaminated sediments as proposed landfill materials nor would these materials have a VOC concentration of 50 ppm or greater.

When optimized at maximum throughput capacity (by year 2025), the consolidated container terminal would be designed to accommodate approximately 3,320,000 twenty-foot equivalent units (TEUs) per year.

3.3 Alternatives Considered

During the NEPA process, the following alternatives to the Project (345-Acre Alternative) were carried forward for evaluation and thoroughly reviewed in the Final EIR/EIS (Figure A-4-2): Alternative 2 (315-Acre Alternative); Alternative 3 (Landside Improvements Alternative); and Alternative 4 (No Project Alternative).

3.3.1 The Proposed Project (345-Acre Alternative)

Under the proposed Project, the existing 294-acre Project site would be increased to 345-acres, which would require a net fill of 54.6 acres in waters of the U.S. The Project includes:

- Terminal consolidation, redevelopment, and expansion in areas of existing and newly created land, dredge and fill operations;
- Wharf construction to create three deep water berths with -55 feet MLLW depths;

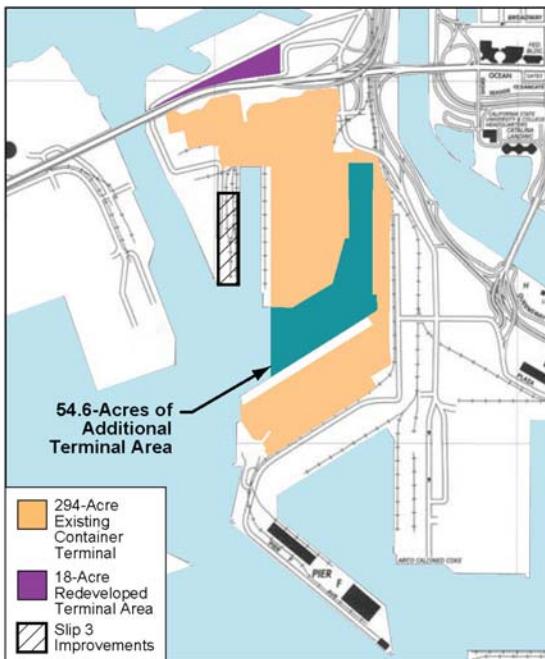
- terminal area (32 acres total) as container storage yard/backland area;
- Rail infrastructure improvements (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expanding the existing Pier F intermodal railyard); and
- Construction of a 66kV substation that would support Middle Harbor container terminal operations, including supplying shore-to-ship power, and future power needs for other Port facilities.

When optimized at maximum throughput capacity (by year 2025), the consolidated container terminal would be designed to accommodate approximately 3,320,000 twenty-foot equivalent units (TEUs) per year.

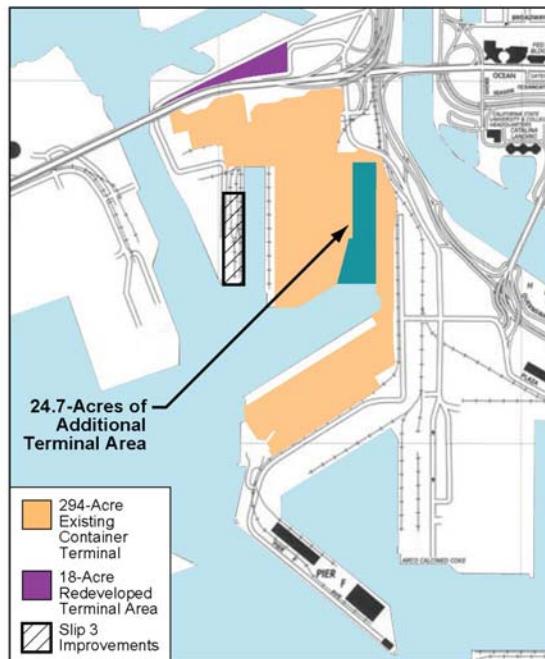
3.3.2 Alternative 2 (315-Acre Alternative)

The 315-Acre Alternative would add a net fill area of approximately 24.7 acres to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). This alternative would include terminal expansion on adjacent areas of existing and newly created land, dredge and fill operations, and new wharf construction. Under this alternative, a new wharf would be constructed to handle increased cargo throughput and accommodate deep-draft container ships, and to replace existing, insufficient wharves. The new 2,900-foot wharf would consist of two deep water berths with -55 feet MLLW depth. Build out under this alternative would include the rail improvements identified for the Project (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expanding the existing Pier F intermodal railyard). However, due to land constraints the area along the railyard would be limited in width under this alternative. The proposed 66kV Pier E Substation would be constructed, as described for the Project. When optimized at maximum throughput capacity (anticipated by approximately 2025), the consolidated container terminal would be designed to accommodate approximately 2,870,000 TEUs per year.

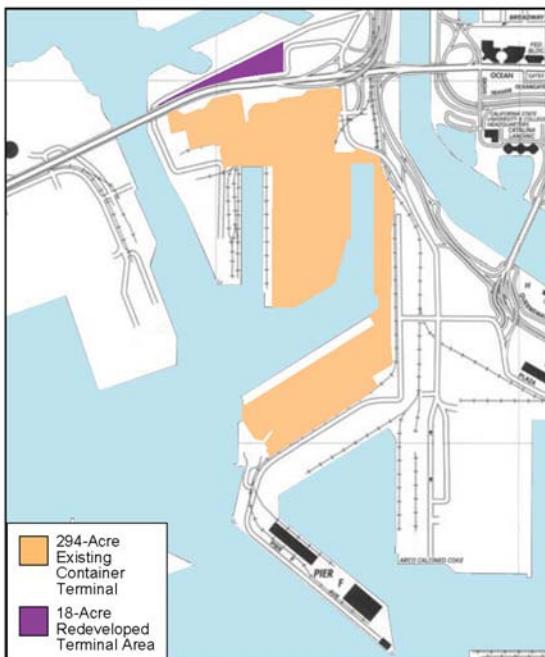
Since Alternative 2 could be selected by the USACE as the least environmentally damaging practicable alternative (LEDPA) that is also not contrary to the public interest, it is also evaluated as part of this general conformity analysis.



Alternative 1:
345-Acre Alternative (The Project)



Alternative 2:
315-Acre Alternative



Alternative 3:
Landside Improvements Alternative



Alternative 4:
No Project Alternative

Figure A-4-2. Proposed Project and Alternatives Container Terminal Areas

3.3.3 Alternative 3 (Landside Improvements Alternative)

The Landside Improvements Alternative would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. The alternative would include construction of the following upland site improvements:

- Redevelopment and backland expansion on existing lands within the Project site (the Berth E23 oil area would be abandoned and redeveloped as container yard area); and
- Construction of a new 66 kV Pier E Substation; and construction of shore-to-ship infrastructure at Piers E and F to cold-iron vessels while at berth.

This alternative would also include construction of a mainline track realignment at Ocean Boulevard/Harbor Scenic Drive and the Pier F storage yard and tracks. The alternative would expand the existing Pier F intermodal railyard to six tracks. When optimized at maximum throughput capacity (anticipated by approximately 2025), the terminal would be designed to accommodate a combined total of about 2,910,000 TEUs per year. Under this alternative, there would be no in-water activities (e.g., dredging, filling Slip 1 and the East Basin, new wharf construction) as proposed for the Project, no wharf upgrades would occur (except the provisions for shore-to-ship power), and channel and berth deepening would not occur.

The Landside Improvements Alternative is equivalent to a No Federal Action Alternative because it only includes construction and operational activities that would not require issuance of a federal permit or involve any other Federal interest. As indicated above, the General Conformity Rules does not apply to this alternative.

3.3.3 Alternative 4 (No Project Alternative)

The No Project Alternative considers what would reasonably be expected to occur at the site if the Port did not implement or the USACE did not issue a permit for the proposed Project. The Port would take no further action to construct additional backlands or redevelop the 294 acres that currently exist. The USACE would not issue a permit for dredge and fill or wharf construction

activities. The No Project Alternative would maintain the current California United Terminals (CUT) and Long Beach Container Terminal (LBCT) at a combined size of 294 acres and in their current configuration. Forecasted increases in cargo would still occur as greater operational efficiencies are implemented.

Under this alternative no construction and, consequently, no construction-related impacts would occur. However, the two terminals would continue to generate operational impacts: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities. The No Project Alternative would result in a maximum throughput of approximately 2,600,000 TEUs per year. Since no construction activities would occur under Alternative 4, the General Conformity Rules does not apply to this alternative.

As indicated above Alternatives 3 and 4, which do not include any in-water or over-water activities, do not require Federal approval by the USACE or involve any other Federal interest. Therefore, a General Conformity determination is not needed for Alternatives 3 and 4.

4.0 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 evaluating 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.

4.1 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. § 93.159(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 Air Quality Management Plan (AQMP) was developed with

data similar to those used in the 1998 Regional Transportation Plan (RTP), which were contemporaneous with the 1997/1999 AQMP.

Approximately every three years, the SCAQMD prepares an updated AQMP for the air quality improvement for submittal to California Air Resource Board (ARB) for inclusion in the SIP. The SCAQMD has developed updated AQMPs that superseded the 1997/1999 AQMP in 2003 and 2007 developed by SCAQMD in cooperation with ARB.

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 POLB. Additionally, the 2008 RTP incorporates estimates of short-term emissions due to construction of RTP projects and associated development in the region (Impact 3.2-3, SCAG Draft 2008 RTP Programmatic Environmental Impact Report). The demonstration of attainment in the more recent 2003 and 2007 AQMPs has not yet been approved by EPA, so the 1997/1999 SIP remains as the most recent federally-approved O₃ SIP for the SCAB.

As noted previously, SCAG is the MPO for the region encompassing POLB. 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 2008). On June 5, 2008, the FHWA issued a finding that the 2008 RTP conforms to the applicable SIP (i.e., transportation conformity determination). 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 Long Beach and Port of Los Angeles) 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.

4.2 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. § 93.159(b)). Prior written approval from SCAQMD or EPA is required to modify or substitute emissions estimation techniques. It should be noted that the latest and most accurate emission estimation techniques available and used at the time of this evaluation may differ from the emission estimation techniques used in establishing the applicable SIP emissions budgets. The emissions estimating process is described in more detail in Appendix A-1 of the Final EIR/EIS (POLB/ USACE 2009).

4.3 Emission Scenarios

The General Conformity regulations require that the evaluation must reflect certain emission scenarios (40 C.F.R. §93.159(d)). Specifically, these scenarios must include emissions from the Federal action for the following years:

- (1) For nonattainment areas, the year mandated in the CAA 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.

5.0 CONFORMITY APPLICABILITY ANALYSIS PROCESS

The first step in a general conformity evaluation is an analysis of whether the requirements apply to the Federal action that is proposed 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, then the Federal agency must make a general conformity determination, as discussed in Section 5.6.

5.1 Attainment Status of the Project Location

The POLB 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 ARB, with oversight by EPA. Pursuant to the CAA, 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 "criteria" air pollutants. These pollutants are: particulate matter with an equivalent aerodynamic diameter less than or equal to 10 micrometers (μm) in diameter (PM₁₀), particulate matter with an equivalent aerodynamic diameter less than or equal to 2.5 μm in diameter (PM_{2.5}), sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), and lead (Pb). EPA has delegated authority to SCAQMD to implement and enforce the NAAQS in the SCAB.

The POLB is in an area of the SCAB that is designated as being in nonattainment of the NAAQS for O₃ (eight-hour average), PM₁₀, and PM_{2.5}. Nonattainment areas are classified based on the severity of the nonattainment; ranging from marginal to extreme. The SCAB is classified as "severe" nonattainment for O₃, "serious" nonattainment for PM₁₀, and nonattainment for PM_{2.5}. However, the SCAQMD has requested EPA to redesignate the SCAB as "extreme" nonattainment for O₃. The area is in attainment for the remaining criteria pollutants. On July 24, 1998, the EPA redesignated this area from nonattainment to attainment/maintenance status for NO₂ (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. Thus, for purposes of the general conformity requirements, this evaluation addresses NO₂, O₃ (8-hour average), CO, PM₁₀, and PM_{2.5}.

5.1.1 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, the ARB has made and continues to make many such submittals to EPA to address issues as they arise related to the various NAAQS for the SCAB and other nonattainment areas in California. 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.

5.1.2 SIP Process in the South Coast Air Basin

ARB 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 (AQMPs) to support the broader SIP, as well as to meet the goals of the California Clean Air Act (CCAA).

Every three years, SCAQMD must prepare and submit to ARB an AQMP to demonstrate how the SCAB will attain and maintain the NAAQS and the California ambient air quality standards. The AQMP contains extensive emission inventories of all emission sources in the SCAB as well as various control measures applicable to most of these sources. Once ARB approves the AQMP, it is submitted to EPA for approval into the SIP. The current approved SIP for the SCAB is based on the AQMP which SCAQMD submitted to ARB in 1997 (SCAQMD 1996) and supplemental information. In August 2003, SCAQMD submitted to ARB an updated AQMP, the 2003 AQMP (SCAQMD 2003), and this formed the basis of a proposed SIP revision that was submitted by ARB to EPA on January 9, 2004. Although EPA partially approved the 2003 SIP in March, 2009, they did not approve the demonstration of attainment in that SIP. Consequently, for purposes of this conformity demonstration, the approved 1997/1999 SIP is still in force. In June 2007, SCAQMD submitted to ARB the Final 2007 SCAQMD AQMP (SCAQMD 2007), and this new Plan formed the basis of a proposed SIP revision that submitted by ARB to EPA on November 16, 2007. No action has been taken by EPA on this latest SIP revision submittal.

5.1.3 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 as 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 of the NAAQS, the area is considered to be a maintenance area for that standard, and as such,

must meet all applicable requirements to maintain the standard.

To support the general conformity determination, this document demonstrates that the emissions of NO_x (as an O₃ precursor) caused by the Federal action will result in a level of emissions which, together with all other emissions in the nonattainment area, will not exceed the emissions budgets specified in the most recent federally-approved O₃ SIP (40 C.F.R. § 93.158(a)(5)(i)(A)) or will not exceed the emissions budgets specified in the 2007 AQMP (see Section 5.2 below). Summaries of the currently approved SIPs for the SCAB are as follows:

- O₃: 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
- PM₁₀: 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.
- NO₂: 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 NO₂.

The SCAQMD released the Final 2007 AQMP on June 1, 2007 and as noted above, this AQMP forms the basis of a proposed SIP revision submitted to EPA. On September 27, 2007, the CARB Board adopted the State Strategy for the 2007 SIP and the 2007 South Coast AQMP as part of the SIP. 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.

The construction emission estimates in the 1997/1999 SIP lead to higher growth of emissions

in future years than the growth and control factors contained in the 2007 SIP, because of the implementation of measures contained in ARB's Diesel Risk Reduction Strategy. Therefore, the approach taken after consultation with the ARB was to compare the NO_x construction emissions from the proposed Project for the following two scenarios:

- The estimated future NOx emissions from the 1997/1999 SIP for the total SCAB off-road equipment inventory.
- The estimated future NOx emissions from the 1997/1999 SIP, adjusted by construction equipment ratios and equipment growth and control factors contained in the 2007 SIP.

5.2 Comparison to SIP Emissions Inventories

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 its supplemental 1999 information form the basis for the current, EPA-approved O₃ SIP. However, since the EPA could approve all or part of the 2007 AQMP for O₃ in the near future, the proposed Federal action emissions are considered with respect to both the currently approved 1997/1999 SIP emissions budgets and the 2007 AQMP emissions budgets.

5.2.1 NOx Emissions from Other Sources at POLB

Notwithstanding the emissions attributable to the Federal action portions of the Project and Alternative 2, it is the determination of the USACE that any change in future emissions at POLB following implementation of the Federal action is not subject to the continuing program responsibility of the USACE and therefore is not required to be addressed in this evaluation. Once construction activities in and over the water are completed, the USACE will retain no authority over the Project's other construction and operational activities, particularly those occurring in the upland portions of the Project area. However, these future emissions will remain subject to the continuing program responsibility of the POLB, and numerous CEQA-related mitigation measures, including many focused on limiting air emissions, will have to be implemented, maintained, and monitored pursuant to the Mitigation Monitoring Reporting Program (MMRP)

included in the certified Final EIR/EIS (Section 3.2.5).

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. § 93.158(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. Section 6 briefly addresses how the two Federal action alternatives were assessed for SIP consistency for this evaluation.

5.3.1 Applicable Requirements from EPA

EPA promulgates requirements to support the goals of the CAA with respect to the attainment and maintenance of 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 implementing and enforcing requirements under the CAA and can impose stricter limitations than EPA, the EPA requirements often serve as guidance to the states in formulating their own air quality management strategies.

5.3.2 Applicable Requirements from ARB

In California, to support the attainment and maintenance of the NAAQS, the ARB is primarily responsible for regulating emissions from mobile sources. In fact, EPA has delegated its authority to ARB to establish emission standards for on-road and some non-road vehicles; separate from the EPA vehicle emission standards. However, the ARB is preempted by the CAA from regulating emissions from many non-road mobile sources, whose control falls back to 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, the 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 within the SCAB region, 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

The POLB complies with the rules and regulations implemented and enforced by Federal, state, regional, and local agencies to protect and enhance ambient air quality in the SCAB. Due to the long persistence of challenges to attain the ambient air quality standards in the SCAB, the rules and regulations promulgated by ARB and SCAQMD are among the most stringent in the U.S. The POLB 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, POLB actively encourages all tenants and users of its facilities to comply with applicable air quality requirements. Additionally, the POLB, in conjunction with the POLA and with guidance from the SCAQMD, ARB, and EPA, has developed the San Pedro Bay Ports Clean Air Action Plan (CAAP); whose objective is to substantially reduce emissions and health risks from the operations of port-related ships, trains, trucks, terminal equipment and harbor craft (POLB and POLA 2006). The CAAP proposes to implement near-term measures largely through new lease agreements, the CEQA/NEPA process, and tariffs.

The nature and extent of the requirements with which the POLB 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.

- ARB 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 NOx, 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 402, Nuisance. This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.
- 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.

Refer to Final EIR/EIS Section 3.2.1.3 for a detailed listing of applicable Federal, State, and local air quality regulations.

5.4 Exemptions from General Conformity Requirements

The general conformity requirements apply to a Federal action if the net Project emissions equal or exceed certain *de minimis* emission rates established in the General Conformity Regulations. The *de minimis* thresholds differ based on the severity of the nonattainment. The only exceptions to this applicability criterion are the exemptions summarized below. However, the emissions that will result from the Federal action portion of the Middle Harbor Redevelopment Project 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. § 93.153(c)(2)). Examples include administrative actions and routine maintenance and repair.
- Actions where the emissions are not reasonably foreseeable (40 C.F.R. § 93.153(c)(3)).
- Actions which implement a decision to conduct or carry out a conforming program (40 C.F.R. § 93.153 (c)(4)).
- Actions which include major new or modified sources requiring a permit under the New Source Review (NSR) program (40 C.F.R. § 93.153(d)(1)).
- Actions in response to emergencies or natural disasters (40 C.F.R. § 93.153(d)(2)).
- Actions which include air quality research not harming the environment (40 C.F.R. § 93.153(d)(3)).
- Actions which include modifications to existing sources to enable compliance with applicable environmental requirements (40 C.F.R. § 93.153(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. § 93.153(d)(5)).

In addition to these exemptions, the General Conformity Regulations allow each Federal

agency to establish a list of activities that are presumed to conform (40 C.F.R. § 93.153(f)). The USACE has not established a presumed-to-conform list of activities at the time of this evaluation.

5.5 Methodology

The general conformity requirements apply to the Federal action portions of the Project and Alternative 2 for each pollutant for which the total of direct and indirect emission rates caused by the Federal action equal or exceed the *de minimis* emission rates, which are presented in Table A-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 the Federal action for the calendar year during which the net emissions are expected to be the highest. Ozone 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). Consequently, its *de minimis* emissions rate is based on the emissions of its precursor pollutants (i.e., VOC and NO_x). If the emissions of either VOC or NO_x from the Federal action exceed the *de minimis* emission rate for O_3 , then the Federal action is subject to a general conformity evaluation for O_3 (EPA 1994).

As indicated above, the region in which the Project is located has been designated as a “severe” non-attainment area for the 8-hour O_3 NAAQS, which results in a *de minimis* emission rate of 25 TPY for NO_x and VOC. The currently approved SIP (1997 AQMP, as amended in 1999) was developed to

demonstrate attainment of the revoked 1-hour O_3 NAAQS by 2010. At that time, the region had been designated as an “extreme” non-attainment area for 1-hour O_3 , which carries a 10 TPY *de minimis* emission rate for NO_x and VOC. In addition, as part of the 2007 AQMP, SCAQMD has requested redesignation to “extreme” nonattainment for the 8-hour O_3 NAAQS. However, until the EPA approves this re-designation request, the *de minimis* threshold for use in O_3 conformity applicability analyses in the SCAB is currently 25 TPY of NO_x and VOC.

The pollutant PM_{2.5} consists of primary particulate matter (i.e., direct emissions of PM_{2.5}) 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 NO_x , and oxides of sulfur (SO_x), although VOCs 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 Project. Based on studies conducted by SCAQMD in the SCAB, the total mass of PM_{2.5} is more associated with combustion-related sources and secondary particles, while primary particles represent a relative small proportion of the 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 from the Federal action portion of the proposed Project exceed the *de minimis* emission rate for PM_{2.5} (100 TPY), then the Project is subject to a general conformity evaluation for PM_{2.5}.

Table A-4-1. De Minimis Emission Rates for Determining Applicability of General Conformity Requirements to the Federal Actions		
Pollutant	SCAB Attainment Status Designation	De Minimis Emission Rate (TPY)
Nitrogen Dioxide (NO ₂)	Attainment/Maintenance	100
Ozone (VOC or NO _x)	Non-Attainment/Extreme ^a	25 ^a
Carbon Monoxide (CO)	Attainment/Maintenance	100
Particulate Matter less than 10 μm (PM ₁₀)	Non-Attainment/ Serious	70
Particulate Matter less than 2.5 μm (PM _{2.5}) [and each precursor] ^b	Non-Attainment	100

a. The SCAB has been designated as a “severe” nonattainment area for the 8-hour O_3 NAAQS, which carries a 25 TPY *de minimis* emission rate for NO_x and VOC. The currently approved SIP (1997 AQMP, as amended in 1999), was developed to demonstrate attainment of the revoked 1-hour O_3 NAAQS by 2010. At that time, the region was designated as an “extreme” nonattainment area for O_3 , which carried a 10 TPY *de minimis* emission rate for NO_x and VOC. The SCAQMD has requested redesignation to “extreme” nonattainment for the 8-hour O_3 NAAQS in the 2007 AQMP, which has not been approved by the EPA. Therefore, the applicability analysis will use 25 TPY as the *de minimis* emission rate for NO_x and VOC emissions.

b. The PM_{2.5} precursors in the region include SO_x, NO_x, VOC, and ammonia.

5.5.1 Emission Estimates

The in-water and over-water construction emissions associated with the proposed federal actions, are subsets of the total construction emissions proposed under Alternatives 1 and 2, as presented in Appendix A-1, Attachment A.1.1 of this Final EIS/EIR. The emission construction estimates presented in this appendix are based on the Appendix A-1, as modified based on new information and additional detail regarding overall schedule, equipment sizes, and anticipated work days, and as applicable to the Federal action portion of the Project and Alternative 2. These data were used to identify the yearly conformity-related emissions for Alternatives 1 and 2. These annual conformity-related emissions for Alternatives 1 and 2 were then divided into the four source categories for comparison to their applicable SIP emission categories. Appendix A-4, Attachment 1 presents the total yearly conformity-related emissions and the individual source category emissions for Alternatives 1 and 2.

5.6 Regional Significance

Even if the emissions from the Federal action are less than the applicable *de minimis* emission rates for the pollutants of concern, the General Conformity Regulation requires that if the action is determined to be regionally significant, it must undergo a conformity evaluation. A regionally significant action is defined as one for which the total of the 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 (40 C.F.R. §93.152). EPA guidance also indicates that any milestone emissions inventory in the applicable SIP should also be considered when evaluating regional significance (EPA 1994).

5.7 Applicability for Federal Action

The applicability of General Conformity Regulation requirements to the Project and its alternatives was determined by comparing the Federal action emissions during each calendar year to the *de minimis* emission rates indentified in Table A-4-1. The second component of the analysis was to compare the proposed annual emissions to the nonattainment or maintenance area's emission inventory to determine whether they are regionally significant. Any proposed emissions that exceed these thresholds must undergo a complete general conformity evaluation.

6.0 GENERAL CONFORMITY DETERMINATION

6.1 Alternative 1 (Proposed Project)

6.1.1 Estimated Emissions and Comparison to Conformity De Minimis Thresholds

Emissions were calculated for VOC, CO, NO_x, SO_x, PM₁₀, and PM_{2.5} (including its precursors) for construction activities associated with the Federal action portion of the Project. For purposes of this evaluation, emissions of NO₂ 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 emission sources (e.g., construction worker commute trips, material delivery hauling trips, debris/spoils disposal hauling trips) are accounted for in the conforming 2004 RTP which is included in the SCAQMD 2007 AQMP (due to the extensive discussions of, and plans for growth in, goods movement in the SCAG region presented in that document). Those emissions are therefore excluded from consideration of general conformity (40 C.F.R. § 93.158(a)(5)(ii)).

As previously mentioned, the USACE lacks continuing program responsibility over the Project once the construction activities in and over navigable waters of the U.S./waters of the U.S. are completed (USACE 1994). Thus, proposed construction and operational emissions subsequent to the Federal action were not included in determining the total direct and indirect emissions associated with the Federal action.

The annual conformity-related emissions due to construction activities for the Federal action portion of the Project are summarized in Table A-4-2. Details of the emission calculations for the Federal action are presented in Appendix A4, Attachment 1. Table A-4-2 shows that during the 2009-2019 construction period, the conformity *de minimis* thresholds would be exceeded only by NO_x emissions. With respect to PM_{2.5}, in addition to direct PM_{2.5} emissions, its precursors (i.e., total NO_x, SO_x, and VOC emissions) must be considered individually and are each subject to the 100 TPY *de minimis* threshold for PM_{2.5}. Table A-4-2 shows that emissions of these pollutants are less than 100 TPY for all Project years. Thus, no additional analysis is required with respect to PM_{2.5} emissions.

Table A-4-2. Annual Conformity-Related Construction Emissions – Federal Action Portion of POLB Middle Harbor Alternative 1 (Proposed Project)

Year	Tons per Year					
	VOC	CO	NOx ^a	SOx	PM10	PM2.5
2009	0.22	1.15	3.50	0.01	0.37	0.20
2010	3.79	22.88	69.95	0.81	5.44	3.43
2011	1.47	7.29	23.11	0.51	2.21	1.29
2012	1.34	4.02	11.26	0.80	5.35	2.06
2013	1.34	4.98	14.10	0.66	5.04	1.97
2014	1.46	8.60	26.25	0.22	4.47	1.83
2015	1.48	6.71	20.45	0.16	4.49	1.80
2016	0.28	1.86	5.85	0.10	0.33	0.24
2017	1.52	5.71	15.96	0.76	1.97	1.40
2018	2.82	14.31	44.72	0.25	12.74	4.21
2019	0.61	2.55	8.52	0.01	8.16	2.04
Conformity De Minimis Thresholds – SCAB	25	100	25	100	70	100

^a Emissions that exceed the *de minimis* threshold are shown in bold.

Table A-4-2 shows that NO_x emissions from construction activities will exceed the 25 TPY NO_x conformity *de minimis* threshold during the following years: 2010, 2014, and 2018. The peak year of NO_x emissions (69.95 TPY) would occur in 2010. As shown in Table A-4-2, no other criteria pollutant would exceed its applicable *de minimis* threshold presented in Table A-4-1.

6.1.2 Regional Significance

To assess the regional significance of the Federal action, Project emissions of CO, VOC, NO_x, PM₁₀, and PM_{2.5} were compared to the regional emissions inventories for all sources (as identified in the applicable SIP and the 2007 AQMP) to determine if Federal action emissions represent ten percent or more of the regional emissions budgets for those pollutants.

Table A-4-3 compares the Federal action totals from the proposed Project for direct and indirect construction emissions of VOC, CO, NO_x, PM₁₀, and PM_{2.5} during the peak year of construction (2010) to the regional emissions inventories of these pollutants as prepared by SCAQMD for the SCAB. Two comparisons are presented using data taken from the 1997 AQMP (SCAQMD 1996), which contains the currently approved SIP budgets, and from the 2007 AQMP (SCAQMD 2007). Although the construction activities produce emissions during each year from 2009 to 2019, the peak construction emissions (i.e., worst-case scenario) for the Federal action occur in 2010, so those emissions were considered in

determining regional significance. Thus, if year 2010 Federal action emissions were found to be regionally insignificant, it could be concluded that the emissions for the remainder of the construction years, which have lower annual emissions, would also be regionally insignificant. Future regional emission inventories were developed in both the 1997/1999 SIP and the 2007 AQMP for only a limited number of years; fortunately, both the 1997 and 2007 AQMPs projected emissions for the 2010 year, which allowed a direct comparison between project emissions and regional emission budgets. As shown in Table A-4-3, annual emissions of all pollutants from the Federal action are much less than ten percent of the SCAB's emissions inventories. Therefore, Federal action emissions are not considered to be regionally significant for VOC, CO, NO_x, PM₁₀, or PM_{2.5}.

Since the annual emissions of VOC, CO, SO_x, PM₁₀, and PM_{2.5} from the Federal action are less than the conformity *de minimis* thresholds and they are not regionally significant, the general conformity requirements do not apply to these pollutants, and no further evaluation is necessary. Proposed NO_x emissions from the Federal action exceed the “severe” O₃ nonattainment area conformity *de minimis* threshold of 25 TPY. Therefore, a general conformity evaluation of proposed NO_x emissions from Alternative 1 was conducted, as described below.

Table A-4-3. Comparison of Annual Conformity-Related Construction Emissions for Regional Significance– Federal Action Portion of POLB Middle Harbor Alternative 1 (Proposed Project)					
Pollutant	Proposed Project Peak Annual Emissions (TPY) ¹	Approved SIP Emissions (TPY) ²	Percent of Approved SIP Emissions	2007 AQMP Emissions (TPY) ³	Percent of 2007 AQMP Emissions
Volatile Organic Compounds (VOCs)	3.79	281,068	0.0013	208,933	0.0018
Nitrogen Oxides (NO _x)	69.95	254,328	0.0275	282,747	0.0247
Carbon Monoxide (CO)	22.88	1,219,366	0.0019	1,085,251	0.0021
Sulfur Oxides (SO _x)	0.81	25,674	0.0031	14,315	0.0056
Particulate Matter (PM ₁₀)	12.74	168,864	0.0075	4	4
Particulate Matter (PM _{2.5})	4.21	4	4	36,996	0.0093

Notes:

1 Emissions from Federal action include all construction emissions for the peak year of construction (2010).

2 Based on data in 1997 AQMP Appendix III (2010 annual average day emissions).

3 Based on data in 2007 AQMP Appendix III (2010 annual average day emissions).

4 No budgets were developed in the currently approved SIP for PM2.5 or in the 2007 AQMP for controlled PM10.

6.1.3 Comparison of NO_x Emissions to Show Conformance with O₃ SIP

Construction emissions from the Middle Harbor Redevelopment Project were not explicitly included as a specific source in the 1997/99 SIP or the 2007 AQMP. However, the growth associated with the project was envisioned in the 2007 AQMP through the projections of Ports expansion and construction growth provided by SCAG (SCAQMD 2009). In addition, several other analyses indicate that the Project is incorporated into the forecasts for emissions growth in the SCAB. There are a total of five lines of reasoning that demonstrate that emissions from the Federal action will not contribute to an exceedance of an emissions budget in the SIP. These five approaches form a compelling “weight of the evidence” argument that the Federal action will conform with the SIP. These arguments are presented below.

1. Comparison with the Approved 1997/1999 SIP Emissions Budgets.

There are three primary emission source categories that would be expected to result in NO_x emissions during the construction of the Federal action:

- Heavy Trucks;
- Construction Equipment; and
- Tug boats operating between 0-3 nautical miles (nm) from shore.

Table A-4-4 presents emissions from the Federal action grouped into construction source categories that follow the 1997/1999 SIP and compares them to the estimated emissions for these same categories, as extracted from the 1997/1999 SIP. A review of the SCAB’s emission inventory as identified in the 1997/1999 SIP shows that it is more “basic” than more recently developed emissions inventories for the region, and that it has less “resolution” as far as emission source categories. For example, while the emissions inventory in the 2007 AQMP provides a detailed breakdown of tugboat emissions, tugboat emissions as a separate category are not found in the 1997/1999 SIP emissions inventory. In addition, the 1997/1999 SIP includes emission projections for only one year (2010) during the proposed 2009-2019 construction period (the peak emissions year).

Table A-4-4 shows that proposed NO_x emissions from the Federal action are a very small fraction of the applicable NO_x emissions budgets in the approved SIP. For either year 2010 or 2015, proposed emissions of any source category would produce a maximum of 0.2 percent of the corresponding SIP emission source category.

Table A-4-4. Comparison of the Federal Action Portion of Alternative 1 NOx Emissions for Construction to Approved 1997/1999 SIP Emission Budgets for Construction-Related Source Types			
Year and Source Type	Federal Action Emissions (TPY)	Approved SIP Emissions (TPY)^{a,b}	Relative Contribution to SIP Budget
2010			
Heavy-Duty Diesel Trucks	8.27	55,874	0.015%
Construction Equipment	24.93	43,493	0.057%
Commercial Boats/Ships (including Tugboats) ^b	36.74	19,002	0.19%

Notes:

a SIP emissions in 2010 from the 1997 AQMP Appendix III, Attachment A, Table A-13.

b Federal Action emissions include tugboat operations from the coast to 3 nm from shore.

2. Comparison with the Approved 2007 AQMP Emissions Budgets.

Table A-4-5 presents emissions from the Federal action in terms of individual construction source categories and compares them to the projected emissions of the same categories extracted from the 2007 AQMP. ARB staff extracted emissions data for trucks and tugboats in each of these source categories from the ARB California Emission Forecasting System (CEFS) v1.06 (ARB 2009). Emissions for off-road equipment were obtained from the 2007 AQMP Appendix III, Attachment A and the public version of CEFS v 1.06. Direct comparisons between emissions from the Federal action and the 2007 AQMP were available during the construction period for four of the 2007 AQMP targeted years: 2010 (the proposed peak year of emissions), 2011, 2014 and 2015.

The data in Table A-4-5 show that NO_x emissions from construction activities due to the Federal action are small relative to the 2007 AQMP emissions budgets for the SCAB. For the four analysis years, proposed emissions of any source category would produce a maximum of 4.17 percent of the corresponding 2007 AQMP source category budget (proposed tugboat activities within 3 nm of shore). Emissions from the other source categories (construction equipment and trucks) would not exceed 0.04 percent of their respective 2007 AQMP emissions budgets.

3. Projected Levels of Emissions Growth are a Small Fraction of Approved Budget

A general analysis indicates that the project construction emissions are a small fraction of the total SCAB approved baseline emissions for both the 1997/1999 SIP and the 2007 AQMP. The SCAQMD concludes that these temporary emissions would result in minimal impacts to

ambient air quality (SCAQMD 2009).

4. Construction-Related Emissions Incorporated into the RTP

The 2008 RTP, developed by the SCAG, incorporates estimates of short-term emissions due to construction of RTP projects and associated development in the region (Impact 3.2-3, SCAG Draft 2008 RTP Programmatic Environmental Impact Report). SCAG has also provided a letter to the Port, stating that "...the POLB/POLA cargo growth is accounted for in each RTP update via traffic (truck and auto) volumes provided to SCAG." Truck traffic from the proposed Federal action are a subset of the growth analysis included in each of the developed RTPs; the data from which are used by SCAMQD in their AQMP development process. Consequently, the construction activities are included in the 2007 AQMP and would equate to only a very small percentage of those evaluated in the 2008 RTP and previous planning documents.

5. Recession-Induced Emission Reductions at the Ports

The current economic recession has produced a downturn in cargo handling activities at the Ports of Long Beach and Los Angeles. This economic downturn has provided temporary emission reductions that will "offset" near-term increases in construction emissions from the proposed Federal action.

The POLB emission growth projections developed by SCAG and used in the 2007 AQMP were based upon a tripling of cargo movements through the SPBPs by 2020, as measured by twenty-foot equivalent units (TEUs) of container cargo throughput. Based upon an American Association of Port Authorities survey, the amount of TEUs

moved through the SPBPs decreased by 0.6 percent in 2007 and 9.9 percent in 2008, compared to 2006 levels. Preliminary data for 2009 indicates a continuation of this trend. The updated long-term cargo forecast of July 2009 estimates that the throughput of TEUs will decline 36.8 percent in 2010 and 38.5 percent in 2015 compared to projections used in the 2007 AQMP. This forecast indicates that actual cargo throughput will not match 2006 levels projected in the 2007 AQMP until 2014 and that it will remain below 2007 AQMP projections beyond 2030. As a result, this real reduction in cargo throughput through the SPBPs equates to reduced emissions and lesser air quality impacts compared to those predicted in the attainment demonstrations (SCAQMD 2009).

The observed decrease in activity at the SPBPs and projections of continued reductions in TEU throughput (and associated emissions) of more than 36 percent from 2010 through 2014, compared to projections used in the 2007 AQMP, will provide a margin to accommodate the increase in NO_x emissions associated with proposed construction activities. In addition, the emission reduction measures proposed for implementation in the Clean Air Action Plan will create additional and significant reductions in future SPBPs emissions. The proposed Federal action is not expected to result in any new or additional violations of the NAAQS or impede the projected attainment of these standards (SCAQMD 2009).

This weight of the evidence argument provides four separate rationales for why it is reasonable to conclude that NO_x emissions from the proposed Federal action construction activities are accommodated within future emissions projections for the SCAB and that they would not exceed NO_x emission budgets specified in the approved SIP or the 2007 AQMP. As a result, the proposed Federal action for Project Alternative 1 would conform to the most recent federally-approved O₃ SIP for the SCAB.

As stated above in Section 5.5, the SCAQMD has requested the EPA to re-designate the SCAB to "extreme" nonattainment for the 8-hour O₃ NAAQS. This re-designation would result in a lowering of the VOC and NO_x conformity thresholds from 25 to 10 TPY. It is expected that this situation will occur before completion of the proposed Federal action. Review of the data in Table A-4-2 shows that annual NO_x emissions from the proposed action would exceed the 10 TPY threshold more than the

25 TPY threshold. However, these additional exceedances would not change the conclusions of this conformity determination, for the reasons mentioned above, and emissions from the proposed action would still conform to the emissions budgets in the applicable SIP and 2007 AQMP.

6.2 ALTERNATIVE 2 (315-ACRE ALTERNATIVE)

6.2.1 Estimated Emissions and Comparison to De Minimis Thresholds

Emissions were calculated for VOC, CO, NO_x, SO_x, PM₁₀, and PM_{2.5} (including its precursors) for the Federal action construction activities associated with Alternative 2. Details of these emission calculations are presented in Appendix A4, Attachment 1.

The annual conformity-related emissions due to proposed construction activities for Alternative 2 are summarized in Table A-4-6. These data show that Federal action emissions from Alternative 2 would exceed the NO_x conformity *de minimis* threshold in 2010, 2013, and 2014. The first few years of construction of Alternative 2 have the same construction activities as Alternative 1. Therefore, the peak annual NO_x emissions of 69.95 tons that would occur in 2010 are identical to those estimated for Alternative 1. Emissions of all other pollutants from the Federal action portion of Alternative 2 would remain below their applicable conformity *de minimis* thresholds during the entire construction period.

6.2.2 Regional Significance

Table A.4-6. Annual Conformity-Related Construction Emissions – Federal Action Portion of POLB Middle Harbor Alternative 2 (312-Acre Alternative)						
Year	Tons per Year					
	VOC	CO	NOx ^b	SOx	PM10	PM2.5
2009	0.22	1.15	3.50	0.01	0.37	0.20
2010	3.79	22.88	69.95	0.81	5.44	3.43
2011	1.47	7.29	23.11	0.51	2.21	1.29
2012	2.09	7.33	21.96	1.33	5.21	2.60
2013	2.33	10.39	30.23	1.75	4.18	2.61
2014	1.54	9.63	28.76	0.53	0.86	1.18
2015	0.66	2.89	8.46	0.13	1.68	0.75
Conformity De Minimis Thresholds – SCAB	25	100	25	100	70	100

Notes:

a No construction activities under this alternative past year 2016.

b Emissions that exceed the *de minimis* threshold are shown in bold.

Table A.4-7. Comparison of Annual Conformity-Related Construction Emissions for Regional Significance–Federal Action Portion of POLB Middle Harbor Alternative 2

Pollutant	Alternative 2 Peak Annual Emissions (TPY) ¹	Approved SIP Emissions (TPY) ²	Percent of Approved SIP	2007 AQMP Emissions (TPY) ³	Percent of 2007 AQMP
Volatile Organic Compounds (VOCs)	3.79	281,068	0.0013%	208,933	0.0018%
Nitrogen Oxides (NO _x)	69.95	254,328	0.0275%	282,747	0.0247%
Carbon Monoxide (CO)	22.88	1,219,368	0.0019%	1,085,251	0.0021%
Sulfur Oxides (SO _x)	0.81	25,764	0.0031%	14,315	0.0056%
Particulate Matter (PM ₁₀)	5.44	168,864	0.0032%	⁴	⁴
Particulate Matter (PM _{2.5})	3.43	⁴	⁴	36,996	0.0093%

Notes:

1 Emissions from Federal action include all construction emissions for the peak year of construction (2010).

2 Based on data in 1997 AQMP Appendix III (2010 average annual day emissions).

3 Based on data in 2007 AQMP Appendix III (2010 average annual day emissions).

4 No budgets were developed in the currently approved SIP for PM_{2.5} or in the 2007 AQMP for controlled PM₁₀.

Table A-4-7 compares the peak annual construction emissions of VOC, CO, NO_x, PM₁₀, and PM_{2.5} from the Federal action portion of Alternative 2 to the regional emissions inventories of these pollutants, as prepared by SCAQMD for the SCAB. As shown in Table A-4-7, annual Federal action emissions of all pollutants from Alternative 2 are much less than ten percent of the SCAB's emissions inventories. Therefore, Federal action emissions of any pollutant from Alternative 2 would not be regionally significant. Since the annual emissions of VOC, CO, SO_x, PM₁₀, and PM_{2.5} from the Federal action portion of Alternative 2 are less than the conformity *de minimis* thresholds and they are not regionally significant, the general conformity requirements do not apply to these pollutants, and no further evaluation is necessary. Proposed NO_x emissions from the Federal action exceed the "severe" O₃ nonattainment area conformity *de minimis* threshold of 25 TPY. Therefore, a general conformity evaluation of proposed NO_x emissions from Alternative 2 was conducted as described below.

6.2.3 Comparison of NO_x Emissions to Show Conformance with O₃ SIP

The same method used to show that Alternative 1 would conform to the applicable SIP is also used for the following evaluation of Alternative 2.

1. Comparison with the approved 1997/1999 SIP emissions budgets.

Similar to Alternative 1, the Federal action portion of Alternative 2 would result in NO_x emissions from three primary emission source categories: heavy trucks; construction equipment; and tugboats operating 0-3 nm from shore. Table A-4-8 presents the emissions from the Federal action portion of Alternative 2, grouped into these construction source categories and compares them to the projected emissions for these same categories, as extracted from the 1997/1999 SIP.

As discussed above for the proposed Project (Section 6.1), the 1997/1999 SIP emissions inventory is more basic with less specific source categories and few targeted attainment years during the construction period. Similar to the analysis conducted for the proposed Project, comparisons were conducted using this emission inventory in 2010 (the peak year of construction emissions) and 2015.

Table A-4-8 shows that the construction emissions for the Federal action portion of Alternative 2 are a very small fraction of the applicable NO_x emissions budgets in the approved SIP. For year 2010, proposed emissions of any source category would produce a maximum of 0.2 percent of the corresponding SIP emission source category.

2. Comparison with the approved 2007 AQMP emissions budgets.

Table A-4-9 evaluates emissions from the Federal action portion of Alternative 2 in comparison to the 2007 AQMP emissions inventory for years 2010, 2011, 2014, and 2015. Projected construction emissions for the 2010 peak year are nearly identical for the Federal action portion of Alternatives 1 or 2. The tug boat emission source category will have the highest consumption of the respective 2007 AQMP budgets, ranging from 0.3 to 4.2 percent. Emissions from the other source categories (construction equipment and trucks) would not exceed 0.04 percent of their respective 2007 AQMP emissions budgets.

This argument and resulting conclusion are the same as those provided for Alternative 1.

3. Projected levels of Emissions Growth are a Small Fraction of Approved Budget

This argument and resulting conclusion are the same as those provided for Alternative 1.

4. Projected Levels of Growth Incorporated into the RTP

This argument and resulting conclusion are the same as those provided for Alternative 1.

5. Recession-induced emission reductions at the Ports

This argument and resulting conclusion are the same as those provided for Alternative 1.

Consequently, this analysis shows that through a weight of evidence argument, the Federal action associated with Alternative 2 would conform to the most recent federally-approved O₃ SIP for the SCAB.

7.0 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. § 93.160). Mitigation measures may be used in combination with other criteria to demonstrate conformity. The Federal actions, as evaluated in these analyses, assume various air quality mitigation measures as described in Chapter 3.2 of the *FEIS/FEIR* (USACE/POLB 2009) to meet California of Environmental Quality Act (CEQA) requirements are part of the Project

Table A-4-8. Comparison of the Federal Action Portion of Alternative 2 NOx Emissions for Construction to Approved 1997/1999 SIP Emission Budgets for Construction-Related Source Types

Year and Source Type	Federal Action Emissions (TPY)	Approved SIP Emissions (TPY) ^{a,b}	Relative Contribution to SIP Budget
2010			
Heavy-Duty Diesel Trucks	8.27	55,874	0.015%
Construction Equipment	24.93	43,493	0.057%
Commercial Boats/Ships (including Tugboats) ^b	36.75	19,002	0.19%
<i>Notes:</i>			
aSIP emissions in 2010 from the 1997 AQMP Appendix III, Attachment A, Table A-13.			
b Federal Action emissions include tugboat operations from the coast to 100 nm from shore.			

Table A-4-9. Comparison of the Federal Action Portion of Alternative 2 NOx Emissions for Construction to 2007 AQMP Emission Budgets for Construction-Related Source Types

Year and Source Type	Federal Action Emissions (TPY)	2007 AQMP Emissions (TPY) ^{a,b}	Relative Contribution to AQMP Budget
2010			
Heavy-Duty Diesel Trucks	8.27	33,348	0.025%
Off-Road Equipment/Construction Equipment	24.93	62,736	0.040%
Tugboats operating 0-3 nm from shore	36.75	881.48	4.17%
2011			
Heavy-Duty Diesel Trucks	3.23	31,200	0.010%
Off-Road Equipment/Construction Equipment	13.94	59,641	0.023%
Tugboats operating 0-3 nm from shore	5.94	834.39	0.72%
2014			
Heavy-Duty Diesel Trucks	2.69	24,782	0.011%
Off-Road Equipment/Construction Equipment	9.73	50,089	0.019%
Tugboats operating 0-3 nm from shore	16.34	694.34	2.35%
2015			
Heavy-Duty Diesel Trucks	1.68	22,860	0.0073%
Off-Road Equipment/Construction Equipment	4.62	48,655	0.0095%
Tugboats operating 0-3 nm from shore	2.15	647.22	0.33%
<i>Notes:</i>			
a Emissions for trucks, tugboats 0-3 nm from the coast, and tugboats 3-100 nm by Earl Withycomb (CARB) from CARB's California Emission Forecasting System (CEFS) v1.06.			
b Emissions for off-road equipment from the 2007 AQMP Appendix III, Attachment A, Tables A-4 through A-7, and public version of CEFS v1.06 (at http://ww.arb.ca.gov/app/emsinv/fcemssumcat2007.php).			

and Alternative 2. Based on CEQA provisions that mitigation measures be required in, or incorporated into, a project (14 C.C.R. § 15091(a)(1)), the POLB will implement, maintain, monitor, and enforce these CEQA-related air quality mitigation measures pursuant to the MMRP included in the certified Final EIR. FEIS/FEIR Table 3.2-59 in Chapter 3.2 provides summaries of the CEQA-related mitigation measures that are proposed as part of these actions. The USACE recognizes that POLB, 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 EIR; however, the USACE lacks continuing program responsibility, control, and enforcement capability over mitigation measures not related to Federal action Project construction activities in and over water as well as

those continuing after construction activities in and over water are completed. As such, no mitigation, as defined under the General Conformity Regulations (40 C.F.R. § 93.160) or guidance (EPA 1994), are required to support a positive general conformity determination.

8.0 REPORTING

To support a decision concerning the Federal action portion of the proposed Project and Alternative 2, the USACE is issuing this final general conformity determination for public review and comment.

8.1 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, any affected Federal land manager, as well as to ARB, 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 its final general conformity determination within 30 days of its promulgation. 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 the promulgation of the final general conformity determination.

8.2 Frequency of General Conformity

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. § 93.157(a)). Because the proposed Federal action envisions a development program extending beyond five years, it is important to note that the final general conformity determination will remain active only under this "continuous program to implement." 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.

9.0 FINDINGS AND CONCLUSIONS

As part of the environmental review of the Federal actions for the proposed Project and Alternative 2, the USACE conducted a general conformity evaluation pursuant to 40 C.F.R. Part 93 Subpart B. The general conformity regulations apply at this time to any actions at POLB requiring USACE approval because the SCAB where the POLB is situated is a nonattainment area for O₃, PM₁₀, and PM_{2.5}; and a maintenance area for NO₂ and CO. The USACE conducted the general conformity evaluation following all regulatory criteria and

procedures and in coordination with EPA and SCAG. The USACE proposes that the Federal actions as designed, will conform to the approved SIP, based on the findings below:

- The Federal actions are not subject to a general conformity determination for CO, VOC (as an O₃ and PM_{2.5} precursor), PM₁₀, PM_{2.5}, or SO_x (as a PM_{2.5} precursor) because the net emissions associated with the Federal actions are less than the conformity *de minimis* thresholds and they are not regionally significant.
- The Federal actions conform to the SIP for NO_x (as an O₃ precursor) and for NO_x (as a PM_{2.5} precursor) because the net emissions associated with the Federal actions, taken together with all other NO_x emissions in the SCAB, would not exceed the emissions budgets in the approved SIP for the years subject to the general conformity evaluation.

Therefore, the USACE herewith concludes that the Federal actions associated with the proposed Project and Alternative 2 as designed would conform to the purpose of the approved SIP and they are consistent with all applicable requirements.

10.0 REFERENCES

- 40 CFR Part 93 Subpart A. 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.
- 40 CFR Part 93 Subpart B. Determining Conformity of General Federal Actions to State or Federal Implementation Plans.
- 63 FR 39747. Approval and Promulgation of State Implementation Plans and Redesignation of the South Coast Air Basin in California to Attainment for Nitrogen Dioxide. July 24.
- 65 FR 18903. Approval and Promulgation of State Implementation Plans; California—South Coast. April 10.
- 68 FR 19315. Approval and Promulgation of State Implementation Plans; California—South Coast. April 18.

72 FR 26718. Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California. May 11.

ARB. 2009. Personal communications with G. Bertolin, Science Applications International Corporation. South Coast AQMD Planning Liaison from the California Air Resources Board, E. Withycomb.

South Coast Air Quality Management District (SCAQMD). 2009. Letter from Joseph Cassmassi, Planning and Rules Manager to Aaron O. Allen, PhD, Chief, North Coast Branch of the U.S. Army Corps of Engineers. October 15, 2009.

SCAQMD. 1996. Final 1997 Air Quality Management Plan. November. Web site: <http://www.aqmd.gov/aqmp/97aqmp/index.html>.

Southern California Association of Governments (SCAG). 2009. Letter from Huasha Liu, Director of Planning Methods, Assessment and Compliance Department to Rick Cameron, POLB Director of Environmental Planning. March 24, 2009.

SCAG. 2008. 2008 Regional Transportation Plan. Web site: http://www.scag.ca.gov/rtp2008/pdfs/finalrtp/f2008RTP_Complete.pdf.

U.S. Army Corps of Engineers/Port of Long Beach (POLB/ USACE . 2008. Draft Environmental Impact Statement/Environmental Impact Report (EIR/EIS) for the Middle Harbor Redevelopment Project.

U.S. Army Corps of Engineers (USACE). 1994. Memorandum For All Major Subordinate Commanders, and District Commanders, Subject: EPA's Clean Air Act (CAA) General Conformity Rule, from Lester Edelman, Chief Counsel, USACE (CECC-E). April 20.

U.S. Environmental Protection Agency (EPA). 2002. General Conformity Guidance for Airports: Questions and Answers. September 25. Web site: http://www.epa.gov/ttn/oarpg/conform/airport_ga.pdf.

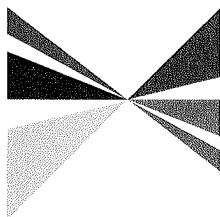
U.S. Environmental Protection Agency (EPA). 1994. General Conformity Guidance: Questions and Answers. July 13. Web site: http://www.epa.gov/ttn/oarpg/conform/gcgqa_71394.pdf.

Attachment 1

This page intentionally left blank.

SCAG LETTER

This page intentionally left blank.



**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

March 24, 2009

Mr. Rick Cameron
Director of Environmental Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, California 90802

Port of Long Beach On-Road Activity Data

Dear Mr. Cameron,

Per a request from the Port of Long Beach, the following is intended to confirm the use of port transportation data in regional transportation and air quality management plans.

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

Transportation activity data, including the port-related transportation activity data, have been provided to the South Coast Air Quality Management District and incorporated into the 2007 South Coast Air Quality Management Plan (AQMP). 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 contact Jonathan Nadler, Manager of Transportation Modeling, Air Quality and Conformity, at (213) 236-1884.

Sincerely,

A handwritten signature in black ink, appearing to read "Huasha Liu".

Huasha Liu
Director, Planning Methods, Assessment and Compliance Department
Southern California Association of Governments

cc: Aaron O. Allen, Army Corps of Engineers

Alternative 1 Conformity Emission Calculations

This page intentionally left blank.

- Table A.4.1-Alt 1-1. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-2. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-3. Activity Data - Excavation Fronting E24 - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-4. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-5. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-6. Activity Data - Paving - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-7. Activity Data - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-8. Activity Data - Fill within Dike - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-9. Activity Data - Remaining Dike Lifts - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-10. Activity Data - Remaining Fill Lifts - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-11. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-12. Activity Data - Construct South Mooring Dolphin - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-13. Activity Data - Wick Drains - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-14. Activity Data - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-15. Activity Data - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-16. Activity Data - Paving - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-17. Activity Data - Lighting, Fence, Striping, Crane Power - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-18. Activity Data - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-19. Activity Data - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-20. Activity Data - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-21. Activity Data - Remove Cellular Sheetpile - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-22. Activity Data - Rock Revetment - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-23. Activity Data - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-24. Activity Data - Ground Improvements Pier D - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-25. Activity Data - Demo E12-13 Wharf - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-26. Activity Data - Lift #1 (~ -30) - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-27. Activity Data - Lift #2 (~ -15) - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-28. Activity Data - Lift #3 (~ 0) - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-29. Activity Data - Lift #4 (~ +15) - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-30. Activity Data - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-31. Activity Data - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-32. Activity Data - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-33. Activity Data - Utility Construction - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-34. Activity Data - Remove Surcharge - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-35. Activity Data - Container Yard Development - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-36. Total Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-37. Total Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-38. Total Emissions - Excavation Fronting E24 - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-39. Total Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-40. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-41. Total Emissions - Paving - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-42. Total Emissions - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor
Table A.4.1-Alt 1-43. Total Emissions - Fill Within Dike - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-44. Total Emissions - Remaining Dike Lifts - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-45. Total Emissions - Remaining Fill Lifts - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-46. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-47. Total Emissions - Construct South Mooring Dolphin - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-48. Total Emissions - Wick Drains - POLB Middle Harbor Alt 1 P1/S1
Table A.4.1-Alt 1-49. Total Emissions - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor
Table A.4.1-Alt 1-50. Daily Emissions - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 1 P1/S1

- Table A.4.1-Alt 1-51. Total Emissions - Paving - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-52. Total Emissions - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor
- Table A.4.1-Alt 1-53. Total Emissions - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor
- Table A.4.1-Alt 1-54. Total Emissions - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-55. Total Emissions - Remove Cellular Sheetpile - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-56. Total Emissions - Rock Revetment - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-57. Total Emissions - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor
- Table A.4.1-Alt 1-58. Total Emissions - Ground Improvements Pier D - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-59. Total Emissions - Demo - E12-13 Wharf - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-60. Total Emissions - Lift #1 (~ -30) - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-61. Total Emissions - Lift #2 (~ -15) - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-62. Total Emissions - Lift #3 (~ 0) - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-63. Total Emissions - Lift #4 (~ +15) - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-64. Total Emissions - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-65. Total Emissions - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-66. Total Emissions - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-67. Total Emissions - 4th Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-68. Total Emissions - Remove Surcharge - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-69. Total Emissions - Container Yard Development - POLB Middle Harbor Alt 1 P1/S1
- Table A.4.1-Alt 1-70. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 1 (1 of 3)
- Table A.4.1-Alt 1-70. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 1 (2 of 3)
- Table A.4.1-Alt 1-70. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 1 (3 of 3)
- Table A.4.1-Alt 1-71. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-72. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-73. Activity Data - Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-74. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-75. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-76. Activity Data - CY Development - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-77. Activity Data -Dredge to -55 ft - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-78. Total Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-79. Total Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-80. Total Emissions -Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor
- Table A.4.1-Alt 1-81. Total Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-82. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-83. Total Emissions - DCY Development - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-84. Total Emissions - Dredge to -55 ft - POLB Middle Harbor Alt 1 P1/S2
- Table A.4.1-Alt 1-85. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1 - Stage 2
- Table A.4.1-Alt 1-86. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-87. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-88. Activity Data - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-89. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-90. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-91. Activity Data - Construct E27 Bulkhead - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-92. Activity Data - CY Development - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-93. Activity Data - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-94. Total Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-95. Total Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-96. Total Emissions - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor
- Table A.4.1-Alt 1-97. Total Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-98. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S3

- Table A.4.1-Alt 1-99. Total Emissions - Construct E27 Bulkhead - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-100. Total Emissions - CY Development - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-101. Total Emissions - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 1 P1/S3
- Table A.4.1-Alt 1-102. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 3
- Table A.4.1-Alt 1-103. Activity Data - Demolition - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-104. Activity Data - Railyard Construction - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-105. Activity Data - Container Yard Development (F1 - F4) - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-106. Activity Data - Demo Existing F1 - F6 Wharf - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-107. Activity Data - Construct East Basin Retaining Dike - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-108. Activity Data - Slip/Basin Fill & Surcharge East- POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-109. Activity Data - Roll Surcharge - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-110. Total Emissions - Demolition - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-111. Total Emissions - Container Yard Development - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-112. Total Emissions - Demo Existing F1 - F4, F6 Wharf - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-113. Total Emissions - Construct East Basin Retaining Dike - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-114. Total Emissions - Slip/Basin Fill & Surcharge East - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-115. Total Emissions - Roll Surcharge - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-116. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 2/Stage 1
- Table A.4.1-Alt 1-117. Activity Data - Dredge and Excavate at Quay Wall - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-118. Activity Data - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-119. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (1 of 2)
- Table A.4.1-Alt 1-120. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (2 of 2)
- Table A.4.1-Alt 1-121. Activity Data - Basin Fill and Surcharge West - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-122. Activity Data - Settlement Period - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-123. Total Emissions - Dredge and Excavate Quay Wall - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-124. Total Emissions - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-125. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (1 of 2)
- Table A.4.1-Alt 1-125. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (2 of 2)
- Table A.4.1-Alt 1-126. Total Emissions - Basin Fill and Surcharge West - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-127. Total Emissions - Settlement Period - POLB Middle Harbor Alt 1 P2/S2
- Table A.4.1-Alt 1-128. Total Conformity Related Emissions - POLB Middle Harbor Project Alternative 1 Phase 2/Stage 2
- Table A.4.1-Alt 1-129. Activity Data - Remove Surcharge - POLB Middle Harbor Alt 1 P2/S3
- Table A.4.1-Alt 1-130. Activity Data - CY Development - POLB Middle Harbor Alt 1 P2/S3
- Table A.4.1-Alt 1-131. Total Emissions - Remove Surcharge- POLB Middle Harbor Alt 1 P2/S3
- Table A.4.1-Alt 1-132. Total Emissions - CY Development - POLB Middle Harbor Alt 1 P2/S3
- Table A.4.1-Alt 1-133. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 2/Stage 3
- Table A.4.1-Alt 1-134. Dike Rock Tug boat Usage
- Table A.4.1 -Alt 1 -135 Worker Commuting Air Emissions for the POLB Middle Harbor Project Construction Activities.
- Table A.4.1-Alt 1-136. Air Emission Factors for the POLB Middle Harbor Project Construction Activities. (1 out of 3)
- Table A.4.1-Alt 1-136. Air Emission Factors for the POLB Middle Harbor Project Construction Activities. (1 out of 3)
- Table A.4.1-Alt 1-136. Air Emission Factors for the POLB Middle Harbor Project Construction Activities. (1 out of 3)
- Table A.4.1-Alt 1-137. Additional Air Emission Factors for the POLB Middle Harbor Project Construction Activities.
- Table A.4.1-Alt1-138. Total Annual Conformity-Related Construction Emissions from Construction Equipment – Alternative 1
- Table A.4.1-Alt1-139. Total Annual Conformity-Related Construction Emissions from Trucks – Federal Action Component - Alternative 1
- Table A.4.1-Alt1-140. Total Annual Conformity-Related Construction Emissions from Tug Boat Usage Within 3nm of the Coast - Alternative 1
- Table A.4.1-Alt1-141. Total Annual Conformity-Related Construction Emissions – Federal Action Component - Alternative 1
- Table A.4.1-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A.4.1-Alt 1-1. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130.00	0.43	1.00	55.90	8.00	447.20	82.00	36,670.40
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	82.00	160,037.76
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	82.00	37,720.00
End Dump Truck	310.00	0.30	4.00	372.00	8.00	2,976.00	82.00	244,032.00
WHARF DEMOLITION MARINE								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	81.90	169,041.60
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	82.00	65,600.00
Work Tug	750.00	0.20	1.00	150.00	8.00	1,200.00	81.90	98,280.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	82.00	49,200.00
Hydra-Crane	130.00	0.43	1.00	55.90	8.00	447.20	81.90	36,625.68
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	81.90	159,842.59
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	81.90	37,674.00
End Dump Truck	310.00	0.30	3.00	279.00	8.00	2,232.00	81.90	182,800.80
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	81.90	94,381.56
Vibratory Hammer & Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	81.90	171,990.00
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	81.90	159,842.59
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	81.90	37,674.00
Welding Machine	26.00	0.50	1.00	13.00	8.00	104.00	81.90	8,517.60
Generator	13.00	0.74	1.00	9.62	8.00	76.96	81.90	6,303.02

Table A.4.1-Alt 1-2. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	15.00	17,286.00
Vibratory Hammer & Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	15.00	31,500.00
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	15.00	6,900.00
Welding Machine	26.00	0.45	1.00	11.70	8.00	93.60	15.00	1,404.00
Generator	13.00	0.74	1.00	9.62	8.00	76.96	15.00	1,154.40

Table A.4.1-Alt 1-3. Activity Data - Excavation Fronting E24 - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500.00	-	1.00	-	24.00	-	70.00	-
Secondary Engine	500.00	-	1.00	-	24.00	-	70.00	-
Bottom Dump Scow	250.00	0.05	1.00	12.50	24.00	300.00	70.00	21,000.00
Tug Boat	2,500.00	0.30	1.00	750.00	6.00	4,500.00	70.00	315,000.00
Secondary Engine	400.00	0.25	1.00	100.00	6.00	600.00	70.00	42,000.00
Work Tug	750.00	0.20	1.00	150.00	12.00	1,800.00	70.00	126,000.00
Secondary Engine	150.00	0.25	1.00	37.50	12.00	450.00	70.00	31,500.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	24.00	2,880.00	70.00	201,600.00
Secondary Engine	80.00	0.50	1.00	40.00	24.00	960.00	70.00	67,200.00
LAND EX								
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	70.00	136,617.60
Loader	170.00	0.68	1.00	115.60	8.00	924.80	70.00	64,736.00
End Dump Truck	310.00	0.25	4.00	310.00	8.00	2,480.00	70.00	173,600.00

Table A.4.1-Alt 1-4. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	50.00	103,200.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	50.00	40,000.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	50.00	108,800.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	50.00	96,000.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	50.00	30,000.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.20	1.00	500.00	4.00	2,000.00	50.00	100,000.00
Secondary Engine	400.00	0.50	1.00	200.00	4.00	800.00	50.00	40,000.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	50.00	48,000.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	50.00	16,000.00

Table A.4.1-Alt 1-5. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152.00	0.43	1.00	65.36	8.00	522.88	39.39	20,598.30
Crane - 200 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	39.39	45,397.58
Drill/Power Pack HPSI	270.00	0.75	1.00	202.50	8.00	1,620.00	39.39	63,818.18
Piledriving Hammer	211.00	0.50	1.00	105.50	8.00	844.00	39.39	33,248.48
Loader-Wheel	300.00	0.30	1.00	90.00	8.00	720.00	39.39	28,363.64
Jet Pump	33.00	0.74	1.00	24.42	8.00	195.36	39.39	7,696.00
End Dump Truck	310.00	0.25	1.00	77.50	8.00	620.00	39.00	24,180.00
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	39.00	17,940.00
Truck-Lowboy	350.00	0.25	1.00	87.50	8.00	700.00	39.00	27,300.00
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	45.14	52,018.06
Derrick Barge	380.00	0.43	1.00	163.40	8.00	1,307.20	45.14	59,005.56
Secondary Engine	195.00	0.50	1.00	97.50	8.00	780.00	45.00	35,100.00
Piledriving Hammer	211.00	0.50	1.00	105.50	8.00	844.00	45.14	38,097.22
End Dump Truck	310.00	0.25	1.00	77.50	8.00	620.00	45.00	27,900.00
Tugboat	1,000.00	0.50	1.00	500.00	8.00	4,000.00	45.14	180,555.56
Secondary Engine	100.00	0.50	1.00	50.00	8.00	400.00	45.00	18,000.00
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	45.00	20,700.00
DRIVE PILES - MISC ACTIVITIES								
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	175.00	341,544.00
Loader-Wheel	180.00	0.30	1.00	54.00	8.00	432.00	175.00	75,600.00
Hydraulic Crane	152.00	0.43	1.00	65.36	8.00	522.88	175.00	91,504.00
Crane - 150 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	175.00	201,670.00
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152.00	0.43	1.00	65.36	8.00	522.88	175.00	91,504.00
Crane - 150 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	175.00	201,670.00
Crane Barge - 150 ton	335.00	0.43	1.00	144.05	8.00	1,152.40	175.00	201,670.00
Secondary Engine	107.00	0.50	1.00	53.50	8.00	428.00	175.00	74,900.00
Concrete Pump	210.00	0.74	1.00	155.40	8.00	1,243.20	175.00	217,560.00
Concrete Trucks	285.00	0.25	4.50	320.63	8.00	2,565.00	175.00	448,875.00
Sandblaster w/air compressor	50.00	-	1.00	-	8.00	-	175.00	-
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	175.00	80,500.00
Tugboat	1,000.00	0.20	1.00	200.00	8.00	1,600.00	175.00	280,000.00
Secondary Engine	100.00	0.40	1.00	40.00	8.00	320.00	175.00	56,000.00
Concrete Saw	35.00	0.10	1.00	3.50	8.00	28.00	175.00	4,900.00
Truck Crane - 65 ton	365.00	0.20	1.00	73.00	8.00	584.00	175.00	102,200.00
Boom Truck	350.00	0.20	1.00	70.00	8.00	560.00	175.00	98,000.00
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	87.50	100,835.00
Vibratory Hammer & Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	87.50	183,750.00
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	87.50	40,250.00
Welding Machine	26.00	0.45	1.00	11.70	8.00	93.60	87.50	8,190.00
Generator	13.00	0.74	1.00	9.62	8.00	76.96	87.50	6,734.00

Table A.4.1-Alt 1-6. Activity Data - Paving - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187.00	0.40	1.00	74.80	8.00	598.40	5.80	3,470.72
Grader	215.00	0.40	1.00	86.00	8.00	688.00	5.80	3,990.40
Roller	151.00	0.40	3.00	181.20	8.00	1,449.60	5.80	8,407.68
Vibration Roller	154.00	0.40	3.00	184.80	8.00	1,478.40	5.80	8,574.72
Water Truck	210.00	0.30	1.00	63.00	8.00	504.00	5.80	2,923.20
Road Sweeper	190.00	0.40	1.00	76.00	8.00	608.00	5.80	3,526.40

Table A.4.1-Alt 1-7. Activity Data - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	60.00	123,840.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	60.00	48,000.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	60.00	130,560.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	60.00	115,200.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	60.00	36,000.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	60.00	426,300.00
Secondary Engines	400.00	0.50	1.00	200.00	5.80	1,160.00	60.00	69,600.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	60.00	57,600.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	60.00	19,200.00

Table A.4.1-Alt 1-8. Activity Data - Fill within Dike - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500.00	-	1.00	-	24.00	-	18.00	-
Secondary Engine	500.00	-	1.00	-	24.00	-	18.00	-
Bottom Dump Scow	250.00	0.05	1.00	12.50	24.00	300.00	18.00	5,400.00
Tug Boat	2,500.00	0.30	1.00	750.00	6.00	4,500.00	18.00	81,000.00
Secondary Engine	400.00	0.25	1.00	100.00	6.00	600.00	18.00	10,800.00
Work Tug	750.00	0.20	1.00	150.00	12.00	1,800.00	18.00	32,400.00
Secondary Engine	150.00	0.25	1.00	37.50	12.00	450.00	18.00	8,100.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	24.00	2,880.00	18.00	51,840.00
Secondary Engine	80.00	0.50	1.00	40.00	24.00	960.00	18.00	17,280.00

Table A.4.1-Alt 1-9. Activity Data - Remaining Dike Lifts - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	60.00	123,840.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	60.00	48,000.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	60.00	130,560.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	60.00	115,200.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	60.00	36,000.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	60.00	426,300.00
Secondary Engine	400.00	0.50	1.00	200.00	5.80	1,160.00	60.00	69,600.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	60.00	57,600.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	60.00	19,200.00

Table A.4.1-Alt 1-10. Activity Data - Remaining Fill Lifts - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500.00	-	1.00	-	24.00	-	60.00	-
Secondary Engine	500.00	-	1.00	-	24.00	-	60.00	-
Bottom Dump Scow	250.00	0.05	1.00	12.50	24.00	300.00	60.00	18,000.00
Tug Boat	2,500.00	0.30	1.00	750.00	6.00	4,500.00	60.00	270,000.00
Secondary Engine	400.00	0.25	1.00	100.00	6.00	600.00	60.00	36,000.00
Work Tug	750.00	0.20	1.00	150.00	12.00	1,800.00	60.00	108,000.00
Secondary Engine	150.00	0.25	1.00	37.50	12.00	450.00	60.00	27,000.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	24.00	2,880.00	60.00	172,800.00
Secondary Engine	80.00	0.50	1.00	40.00	24.00	960.00	60.00	57,600.00

Table A.4.1-Alt 1-11. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152.00	0.43	1.00	65.36	8.00	522.88	33.33	17,429.33
Crane - 200 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	33.33	38,413.33
Drill/Power Pack HPSI	270.00	0.75	1.00	202.50	8.00	1,620.00	33.33	54,000.00
Piledriving Hammer	211.00	0.50	1.00	105.50	8.00	844.00	33.33	28,133.33
Loader-Wheel	300.00	0.30	1.00	90.00	8.00	720.00	33.33	24,000.00
Jet Pump	33.00	0.74	1.00	24.42	8.00	195.36	33.33	6,512.00
End Dump Truck	310.00	0.25	1.00	77.50	8.00	620.00	33.00	20,460.00
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	33.00	15,180.00
Truck-Lowboy	350.00	0.25	1.00	87.50	8.00	700.00	33.00	23,100.00
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	38.19	44,015.28
Derrick Barge	380.00	0.43	1.00	163.40	8.00	1,307.20	38.19	49,927.78
Secondary Engine	195.00	0.50	1.00	97.50	8.00	780.00	38.00	29,640.00
Piledriving Hammer	211.00	0.50	1.00	105.50	8.00	844.00	38.19	32,236.11
End Dump Truck	310.00	0.25	1.00	77.50	8.00	620.00	38.00	23,560.00
Tugboat	1,000.00	0.50	1.00	500.00	8.00	4,000.00	38.19	152,777.78
Secondary Engine	100.00	0.50	1.00	50.00	8.00	400.00	38.00	15,200.00
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	38.00	17,480.00
DRIVE PILES - MISC ACTIVITIES								
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	126.00	245,911.68
Loader-Wheel	180.00	0.30	1.00	54.00	8.00	432.00	126.00	54,432.00
Hydraulic Crane	152.00	0.43	1.00	65.36	8.00	522.88	126.00	65,882.88
Crane - 150 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	126.00	145,202.40
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152.00	0.43	1.00	65.36	8.00	522.88	126.00	65,882.88
Crane - 150 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	126.00	145,202.40
Crane Barge - 150 ton	335.00	0.43	1.00	144.05	8.00	1,152.40	126.00	145,202.40
Secondary Engine	107.00	0.50	1.00	53.50	8.00	428.00	126.00	53,928.00
Concrete Pump	210.00	0.74	1.00	155.40	8.00	1,243.20	126.00	156,643.20
Concrete Trucks	285.00	0.25	4.50	320.63	8.00	2,565.00	126.00	323,190.00
Sandblaster w/air compressor	50.00	-	1.00	-	8.00	-	126.00	-
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	126.00	57,960.00
Tugboat	1,000.00	0.20	1.00	200.00	8.00	1,600.00	126.00	201,600.00
Secondary Engine	100.00	0.40	1.00	40.00	8.00	320.00	126.00	40,320.00
Concrete Saw	35.00	0.10	1.00	3.50	8.00	28.00	126.00	3,528.00
Truck Crane - 65 ton	365.00	0.20	1.00	73.00	8.00	584.00	126.00	73,584.00
Boom Truck	350.00	0.20	1.00	70.00	8.00	560.00	126.00	70,560.00
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	37.80	43,560.72
Vibratory Hammer & Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	37.80	79,380.00
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	37.80	17,388.00
Welding Machine	26.00	0.45	1.00	11.70	8.00	93.60	37.80	3,538.08
Generator	13.00	0.74	1.00	9.62	8.00	76.96	37.80	2,909.09

Table A.4.1-Alt 1-12. Activity Data - Construct South Mooring Dolphin - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	5.60	6,453.44
Derrick Barge	380.00	0.43	1.00	163.40	8.00	1,307.20	5.60	7,320.32
Secondary Engine	195.00	0.50	1.00	97.50	8.00	780.00	6.00	4,680.00
Piledriving Hammer	211.00	0.50	1.00	105.50	8.00	844.00	5.60	4,726.40
End Dump Truck	310.00	0.25	1.00	77.50	8.00	620.00	6.00	3,720.00
Tugboat	1,000.00	0.50	1.00	500.00	8.00	4,000.00	5.60	22,400.00
Secondary Engine	100.00	0.50	1.00	50.00	8.00	400.00	6.00	2,400.00
Truck-Flatbed	230.00	0.25	1.00	57.50	8.00	460.00	6.00	2,760.00

Table A.4.1-Alt 1-13. Activity Data - Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428.00	0.30	1.00	128.40	8.00	1,027.20	9.00	9,244.80

Table A.4.1-Alt 1-14. Activity Data - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	8.00	164,160.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	8.00	12,768.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	8.00	9,792.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	8.00	29,760.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	8.00	4,960.00

Table A.4.1-Alt 1-15. Activity Data - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	4.00	82,080.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	4.00	6,384.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	4.00	4,896.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	4.00	14,880.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	4.00	2,480.00

Table A.4.1-Alt 1-16. Activity Data - Paving - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187.00	0.40	1.00	74.80	8.00	598.40	30.00	17,952.00
Grader	215.00	0.40	1.00	86.00	8.00	688.00	30.00	20,640.00
Roller	151.00	0.40	3.00	181.20	8.00	1,449.60	30.00	43,488.00
Vibration Roller	154.00	0.40	3.00	184.80	8.00	1,478.40	30.00	44,352.00
Water Truck	210.00	0.30	1.00	63.00	8.00	504.00	30.00	15,120.00
Road Sweeper	190.00	0.40	1.00	76.00	8.00	608.00	30.00	18,240.00

Table A.4.1-Alt 1-17. Activity Data - Lighting, Fence, Striping, Crane Power - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
Flat Bed Truck	230.00	0.25	1.00	57.50	8.00	460.00		-
Truck Crane	130.00	0.20	1.00	26.00	8.00	208.00		-
Auger	125.00	0.50	1.00	62.50	8.00	500.00		-

201.00 1st Vessel

Table A.4.1-Alt 1-18. Activity Data - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	16.38	18,876.31
Vibratory Hammer & Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	16.38	34,398.00
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	16.38	7,534.80
Welding Machine	26.00	0.45	1.00	11.70	8.00	93.60	16.38	1,533.17
Generator	13.00	0.74	1.00	9.62	8.00	76.96	16.38	1,260.60

Table A.4.1-Alt 1-19. Activity Data - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
LAND EX								
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	24.00	46,840.32
Loader	170.00	0.68	1.00	115.60	8.00	924.80	24.00	22,195.20
End Dump Truck	310.00	0.25	4.00	310.00	8.00	2,480.00	24.00	59,520.00

Table A.4.1-Alt 1-20. Activity Data - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
LAND EX								
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	39.00	76,115.52
Loader	170.00	0.68	1.00	115.60	8.00	924.80	39.00	36,067.20
End Dump Truck	310.00	0.25	4.00	310.00	8.00	2,480.00	39.00	96,720.00
CLAMSHELL DREDGING								
Clamshell Dredge	2,500.00	-	1.00	-	24.00	-	65.00	-
Secondary Engine	500.00	-	1.00	-	24.00	-	65.00	-
Bottom Dump Scow	250.00	0.05	1.00	12.50	24.00	300.00	65.00	19,500.00
Tug Boat	2,500.00	0.30	1.00	750.00	6.00	4,500.00	65.00	292,500.00
Secondary Engine	400.00	0.25	1.00	100.00	6.00	600.00	65.00	39,000.00
Work Tug	750.00	0.20	1.00	150.00	12.00	1,800.00	65.00	117,000.00
Secondary Engine	150.00	0.25	1.00	37.50	12.00	450.00	65.00	29,250.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	24.00	2,880.00	65.00	187,200.00
Secondary Engine	80.00	0.50	1.00	40.00	24.00	960.00	65.00	62,400.00

Table A.4.1-Alt 1-21. Activity Data - Remove Cellular Sheetpile - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	65.00	74,906.00
Vibratory Hammer & Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	65.00	136,500.00
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	65.00	126,859.20
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	65.00	29,900.00
Welding Machine	26.00	0.50	1.00	13.00	8.00	104.00	65.00	6,760.00
Generator	13.00	0.74	1.00	9.62	8.00	76.96	65.00	5,002.40

Table A.4.1-Alt 1-22. Activity Data - Rock Revetment - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	48.00	99,072.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	48.00	38,400.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	48.00	104,448.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	48.00	92,160.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	48.00	28,800.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	48.00	341,040.00
Secondary Engine	400.00	0.50	1.00	200.00	5.80	1,160.00	48.00	55,680.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	48.00	46,080.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	48.00	15,360.00

Table A.4.1-Alt 1-23. Activity Data - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500.00	-	1.00	-	24.00	-	18.00	-
Secondary Engine	500.00	-	1.00	-	24.00	-	18.00	-
Bottom Dump Scow	250.00	0.05	1.00	12.50	24.00	300.00	18.00	5,400.00
Tug Boat	2,500.00	0.30	1.00	750.00	6.00	4,500.00	18.00	81,000.00
Secondary Engine	400.00	0.25	1.00	100.00	6.00	600.00	18.00	10,800.00
Work Tug	750.00	0.20	1.00	150.00	12.00	1,800.00	18.00	32,400.00
Secondary Engine	150.00	0.25	1.00	37.50	12.00	450.00	18.00	8,100.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	24.00	2,880.00	18.00	51,840.00
Secondary Engine	80.00	0.50	1.00	40.00	24.00	960.00	18.00	17,280.00

Table A.4.1-Alt 1-24. Activity Data - Ground Improvements Pier D - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
STONE COLUMN INSTALLATION EQ								
Stone Column Crane - 100 Ton	335.00	0.43	3.00	432.15	8.00	3,457.20	67.73	234,167.68
Vibratory Probe & Power Pack	350.00	0.75	3.00	787.50	8.00	6,300.00	67.73	426,720.00
Auger Crane - 100 Ton	335.00	0.43	1.00	144.05	8.00	1,152.40	67.73	78,055.89
Auger & Hydraulic Power Pack	350.00	0.75	1.00	262.50	8.00	2,100.00	67.73	142,240.00
Welding Machine	26.00	0.50	1.00	13.00	8.00	104.00	67.73	7,044.27
Generator	13.00	0.74	1.00	9.62	8.00	76.96	67.73	5,212.76
Excavator	428.00	0.25	1.00	107.00	8.00	856.00	67.73	57,979.73
Loader	170.00	0.30	4.00	204.00	8.00	1,632.00	67.73	110,540.80
End Dump Truck	310.00	0.25	4.00	310.00	8.00	2,480.00	67.73	167,978.67
MARINE ROCK DELIVERY EQ								
Derrick Barge	800.00	0.30	1.00	240.00	8.00	1,920.00	33.87	65,024.00
Front End Loader	400.00	0.30	1.00	120.00	8.00	960.00	33.87	32,512.00
Tug Boat	1,650.00	0.30	1.00	495.00	8.00	3,960.00	33.87	134,112.00
Tug Boat	2,500.00	0.50	1.00	1,250.00	8.00	10,000.00	33.87	338,666.67

Table A.4.1-Alt 1-25. Activity Data - Demo E12-13 Wharf - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130.00	0.43	1.00	55.90	8.00	447.20	109.20	48,834.24
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	109.20	213,123.46
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	109.20	50,232.00
End Dump Truck	310.00	0.30	4.00	372.00	8.00	2,976.00	109.20	324,979.20
WHARF DEMOLITION MARINE								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	109.20	225,388.80
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	109.00	87,200.00
Work Tug	750.00	0.20	1.00	150.00	8.00	1,200.00	109.20	131,040.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	109.00	65,400.00
Hydra-Crane	130.00	0.43	1.00	55.90	8.00	447.20	109.20	48,834.24
Excavator	428.00	0.57	1.00	243.96	8.00	1,951.68	109.20	213,123.46
Flatbed Truck	230.00	0.25	1.00	57.50	8.00	460.00	109.20	50,232.00
End Dump Truck	310.00	0.30	3.00	279.00	8.00	2,232.00	109.20	243,734.40

Table A.4.1-Alt 1-26. Activity Data - Lift #1 (- -30) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	27.00	55,728.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	27.00	21,600.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	27.00	58,752.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	27.00	51,840.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	27.00	16,200.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	27.00	191,835.00
Secondary Engine	400.00	0.50	1.00	200.00	5.80	1,160.00	27.00	31,320.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	27.00	25,920.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	27.00	8,640.00

Table A.4.1-Alt 1-27. Activity Data - Lift #2 (- -15) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	16.00	33,024.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	16.00	12,800.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	16.00	34,816.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	16.00	30,720.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	16.00	9,600.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	16.00	113,680.00
Secondary Engine	400.00	0.50	1.00	200.00	5.80	1,160.00	16.00	18,560.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	16.00	15,360.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	16.00	5,120.00

Table A.4.1-Alt 1-28. Activity Data - Lift #3 (- 0) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	14.00	28,896.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	14.00	11,200.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	14.00	30,464.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	14.00	26,880.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	14.00	8,400.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	14.00	99,470.00
Secondary Engine	400.00	0.50	1.00	200.00	5.80	1,160.00	14.00	16,240.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	14.00	13,440.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	14.00	4,480.00

Table A.4.1-Alt 1-29. Activity Data - Lift #4 (- +15) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600.00	0.43	1.00	258.00	8.00	2,064.00	12.00	24,768.00
Secondary Engine	200.00	0.50	1.00	100.00	8.00	800.00	12.00	9,600.00
Front End Loader	400.00	0.68	1.00	272.00	8.00	2,176.00	12.00	36,112.00
Tug Boat	1,200.00	0.20	1.00	240.00	8.00	1,920.00	12.00	23,040.00
Secondary Engine	150.00	0.50	1.00	75.00	8.00	600.00	12.00	7,200.00
Tug Boat Rock Transport - Within 3 nm	2,500.00	0.49	1.00	1,225.00	5.80	7,105.00	12.00	85,260.00
Secondary Engine	400.00	0.50	1.00	200.00	5.80	1,160.00	12.00	13,920.00
Crew/Survey Boat	400.00	0.30	1.00	120.00	8.00	960.00	12.00	11,520.00
Secondary Engine	80.00	0.50	1.00	40.00	8.00	320.00	12.00	3,840.00

Table A.4.1-Alt 1-30. Activity Data - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428.00	0.30	1.00	128.40	8.00	1,027.20	12.00	12,326.40
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	12.00	246,240.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	12.00	19,152.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	12.00	14,688.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	12.00	44,640.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	12.00	7,440.00

Table A.4.1-Alt 1-31. Activity Data - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428.00	0.30	1.00	128.40	8.00	1,027.20	30.00	30,816.00
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	18.00	369,360.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	18.00	28,728.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	18.00	22,032.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	18.00	66,960.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	18.00	11,160.00

Table A.4.1-Alt 1-32. Activity Data - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428.00	0.30	1.00	128.40	8.00	1,027.20	30.00	30,816.00
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	24.00	492,480.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	24.00	38,304.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	24.00	29,376.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	24.00	89,280.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	24.00	14,880.00

Table A.4.1-Alt 1-33. Activity Data - Utility Construction - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428.00	0.30	1.00	128.40	8.00	1,027.20	27.00	27,734.40
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	45.00	923,400.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	45.00	71,820.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	45.00	55,080.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	45.00	167,400.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	45.00	27,900.00

Table A.4.1-Alt 1-34. Activity Data - Remove Surcharge - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475.00	0.60	9.00	2,565.00	8.00	20,520.00	36.00	738,720.00
Dozers	285.00	0.35	2.00	199.50	8.00	1,596.00	36.00	57,456.00
Loader	170.00	0.30	3.00	153.00	8.00	1,224.00	36.00	44,064.00
End Dump Truck	310.00	0.25	6.00	465.00	8.00	3,720.00	36.00	133,920.00
Water Truck	310.00	0.25	1.00	77.50	8.00	620.00	36.00	22,320.00

Table A.4.1-Alt 1-35. Activity Data - Container Yard Development - POLB Middle Harbor Alt 1 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD UTILITIES								
Pipeler	300.00	0.50	1.00	150.00	8.00	1,200.00		-
Auger	125.00	0.50	1.00	62.50	8.00	500.00		-
Crane	130.00	0.43	1.00	55.90	8.00	447.20		-
Grader	215.00	0.61	3.00	393.45	8.00	3,147.60		-
End Dump Truck	310.00	0.25	1.00	77.50	8.00	620.00		-
Flat Bed Truck	230.00	0.25	2.00	115.00	8.00	920.00		-
Concrete Truck	250.00	0.60	4.00	600.00	8.00	4,800.00		-
Front End Loader	400.00	0.40	2.00	320.00	8.00	2,560.00		-
Trencher	200.00	0.20	1.00	40.00	8.00	320.00		-
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187.00	0.40	1.00	74.80	8.00	598.40	222.60	133,203.84
Grader	215.00	0.40	1.00	86.00	8.00	688.00	222.60	153,148.80
Roller	151.00	0.40	3.00	181.20	8.00	1,449.60	222.60	322,680.96
Vibration Roller	154.00	0.40	3.00	184.80	8.00	1,478.40	222.60	329,091.84
Water Truck	210.00	0.30	1.00	63.00	8.00	504.00	222.60	112,190.40
Road Sweeper	190.00	0.40	1.00	76.00	8.00	608.00	222.60	135,340.80

Table A.4.1-Alt 1-36. Total Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.04	0.11	0.00	0.01	0.01	0.01
Excavator	0.04	0.15	0.49	0.00	0.03	0.03	0.02
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
End Dump Truck	0.05	0.23	0.75	0.00	0.04	0.04	0.04
Subtotal	0.11	0.44	1.48	0.00	0.08	0.08	0.08
WHARF DEMOLITION MARINE							
Derrick Barge	0.04	0.25	0.52	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.05	0.20	0.00	0.01	0.01	0.01
Work Tug	0.02	0.20	0.55	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Hydra-Crane	0.01	0.04	0.11	0.00	0.01	0.01	0.01
Excavator	0.04	0.15	0.49	0.00	0.03	0.03	0.02
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
End Dump Truck	0.04	0.17	0.56	0.00	0.03	0.03	0.03
Subtotal	0.18	0.93	2.71	0.00	0.14	0.14	0.13
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.02	0.09	0.29	0.00	0.02	0.02	0.01
Vibratory Hammer & Power Pack	0.04	0.16	0.53	0.00	0.03	0.03	0.03
Excavator	0.04	0.15	0.49	0.00	0.03	0.03	0.02
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.01	0.05	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.11	0.45	1.51	0.00	0.08	0.08	0.08

Table A.4.1-Alt 1-37. Total Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Flatbed Truck	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.06	0.19	0.00	0.01	0.01	0.01

Table A.4.1-Alt 1-38. Total Emissions - Excavation Fronting E24 - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	-	-	-	-	-	-	-
Secondary Engine	-	-	-	-	-	-	-
Bottom Dump Scow	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Tug Boat	0.07	0.65	1.76	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Work Tug	0.03	0.26	0.70	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.04	0.28	1.66	0.10	0.07	0.07	0.06
Secondary Engine	0.01	0.18	0.24	0.00	0.02	0.02	0.02
Subtotal	0.17	1.45	4.66	0.11	0.18	0.18	0.17
LAND EX							
Excavator	0.03	0.13	0.42	0.00	0.02	0.02	0.02
Loader	0.01	0.06	0.20	0.00	0.02	0.02	0.01
End Dump Truck	0.04	0.16	0.54	0.00	0.03	0.03	0.03
Subtotal	0.08	0.35	1.16	0.00	0.07	0.07	0.06

Table A.4.1-Alt 1-39. Total Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.02	0.15	0.32	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Front End Loader	0.02	0.10	0.34	0.00	0.02	0.02	0.02
Tug Boat	0.02	0.20	0.54	0.00	0.02	0.02	0.01
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.02	0.21	0.56	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.07	0.39	0.02	0.02	0.02	0.01
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.00
Subtotal	0.13	0.86	2.54	0.03	0.11	0.11	0.10

Table A.4.1-Alt 1-40. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Crane - 200 Ton	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.01	0.06	0.20	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Loader-Wheel	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Jet Pump	0.01	0.01	0.04	0.00	0.00	0.00	0.00
End Dump Truck	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.01	0.06	0.00	0.00	0.00	0.00
Truck-Lowboy	0.01	0.03	0.08	0.00	0.00	0.00	0.00
Subtotal	0.06	0.25	0.85	0.00	0.05	0.05	0.04
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.01	0.05	0.16	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.03	0.12	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Tugboat	0.04	0.37	1.01	0.00	0.03	0.03	0.03
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Truck-Flatbed	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Subtotal	0.10	0.62	1.79	0.00	0.07	0.07	0.07
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.08	0.32	1.05	0.00	0.06	0.06	0.05
Loader-Wheel	0.02	0.06	0.23	0.00	0.01	0.01	0.01
Hydraulic Crane	0.02	0.09	0.28	0.00	0.02	0.02	0.02
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Subtotal	0.16	0.65	2.19	0.00	0.12	0.12	0.11
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.02	0.19	0.62	0.00	0.05	0.05	0.04
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Crane Barge - 150 ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.20	0.27	0.00	0.02	0.02	0.02
Concrete Pump	0.05	0.18	0.67	0.00	0.04	0.04	0.03
Concrete Trucks	0.10	0.42	1.39	0.00	0.07	0.07	0.07
Sandblaster w/air compressor	-	-	-	-	-	-	-
Truck-Flatbed	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Tugboat	0.06	0.58	1.57	0.00	0.05	0.05	0.04
Secondary Engine	0.01	0.15	0.20	0.00	0.02	0.02	0.02
Concrete Saw	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.02	0.09	0.32	0.00	0.02	0.02	0.02
Boom Truck	0.02	0.09	0.30	0.00	0.02	0.02	0.01
Subtotal	0.41	2.34	6.86	0.01	0.36	0.36	0.34
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.02	0.09	0.31	0.00	0.02	0.02	0.02
Vibratory Hammer & Power Pack	0.04	0.17	0.57	0.00	0.03	0.03	0.03
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.01	0.05	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Subtotal	0.08	0.32	1.08	0.00	0.06	0.06	0.06

Table A.4.1-Alt 1-41. Total Emissions - Paving - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Grader	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Roller	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Vibration Roller	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Road Sweeper	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.03	0.10	0.00	0.01	0.01	0.01

Table A.4.1-Alt 1-42. Total Emissions - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor

- Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Front End Loader	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Tug Boat	0.03	0.24	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.09	0.88	2.38	0.00	0.07	0.07	0.07
Secondary Engine	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.22	1.69	4.83	0.03	0.18	0.18	0.17

Table A.4.1-Alt 1-43. Total Emissions - Fill Within Dike - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	-	-	-	-	-	-	-
Secondary Engine	-	-	-	-	-	-	-
Bottom Dump Scow	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Tug Boat	0.02	0.17	0.45	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Work Tug	0.01	0.07	0.18	0.00	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.07	0.43	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.06	0.00	0.01	0.01	0.01
Subtotal	0.04	0.37	1.20	0.03	0.05	0.05	0.04

Table A.4.1-Alt 1-44. Total Emissions - Remaining Dike Lifts - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Front End Loader	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Tug Boat	0.03	0.24	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.09	0.88	2.38	0.00	0.07	0.07	0.07
Secondary Engine	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.22	1.69	4.83	0.03	0.18	0.18	0.17

Table A.4.1-Alt 1-45. Total Emissions - Remaining Fill Lifts - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	-	-	-	-	-	-	-
Secondary Engine	-	-	-	-	-	-	-
Bottom Dump Scow	0.00	0.01	0.06	0.00	0.00	0.00	0.00
Tug Boat	0.06	0.56	1.51	0.00	0.04	0.04	0.04
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Work Tug	0.02	0.22	0.60	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.08	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.03	0.24	1.42	0.09	0.06	0.06	0.05
Secondary Engine	0.01	0.15	0.21	0.00	0.02	0.02	0.02
Subtotal	0.14	1.24	3.99	0.09	0.15	0.15	0.14

Table A.4.1-Alt 1-46. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Crane - 200 Ton	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Loader-Wheel	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Jet Pump	0.00	0.01	0.04	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Truck-Lowboy	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Subtotal	0.05	0.21	0.72	0.00	0.04	0.04	0.04
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Piledriving Hammer	0.01	0.03	0.10	0.00	0.01	0.01	0.00
End Dump Truck	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Tugboat	0.03	0.31	0.85	0.00	0.03	0.03	0.02
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.00
Truck-Flatbed	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Subtotal	0.08	0.53	1.52	0.00	0.06	0.06	0.06
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.05	0.23	0.76	0.00	0.04	0.04	0.04
Loader-Wheel	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Crane - 150 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Subtotal	0.11	0.47	1.58	0.00	0.09	0.09	0.08
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Crane - 150 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Crane Barge - 150 ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.14	0.20	0.00	0.02	0.02	0.02
Concrete Pump	0.03	0.13	0.48	0.00	0.03	0.03	0.02
Concrete Trucks	0.07	0.30	1.00	0.00	0.05	0.05	0.05
Sandblaster w/air compressor	-	-	-	-	-	-	-
Truck-Flatbed	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Tugboat	0.04	0.41	1.13	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.11	0.15	0.00	0.01	0.01	0.01
Concrete Saw	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.02	0.07	0.23	0.00	0.01	0.01	0.01
Boom Truck	0.02	0.07	0.22	0.00	0.01	0.01	0.01
Subtotal	0.30	1.61	4.69	0.01	0.24	0.24	0.22
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Flatbed Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Subtotal	0.04	0.14	0.47	0.00	0.03	0.03	0.02

Table A.4.1-Alt 1-47. Total Emissions - Construct South Mooring Dolphin - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Derrick Barge	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Piledriving Hammer	0.00	0.00	0.01	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Tugboat	0.00	0.05	0.13	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.08	0.23	0.00	0.01	0.01	0.01

Table A.4.1-Alt 1-48. Total Emissions - Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.00	0.01	0.03	0.00	0.00	0.00	0.00

Table A.4.1-Alt 1-49. Total Emissions - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor - Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.04	0.15	0.51	0.00	0.03	0.03	0.02
Dozers	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Loader	0.00	0.01	0.03	0.00	0.00	0.00	0.00
End Dump Truck	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Subtotal	0.05	0.21	0.68	0.00	0.04	0.04	0.03

Table A.4.1-Alt 1-50. Daily Emissions - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.02	0.08	0.25	0.00	0.01	0.01	0.01
Dozers	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Loader	0.00	0.00	0.02	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.02	0.10	0.34	0.00	0.02	0.02	0.02

Table A.4.1-Alt 1-51. Total Emissions - Paving - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.00	0.01	0.06	0.00	0.00	0.00	0.00
Grader	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Roller	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Vibration Roller	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Road Sweeper	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Subtotal	0.04	0.14	0.49	0.00	0.03	0.03	0.03

Table A.4.1-Alt 1-52. Total Emissions - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor

- Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Flatbed Truck	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.02	0.06	0.20	0.00	0.01	0.01	0.01

Table A.4.1-Alt 1-53. Total Emissions - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor

- Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
LAND EX							
Excavator	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Loader	0.00	0.02	0.07	0.00	0.01	0.01	0.00
End Dump Truck	0.01	0.06	0.18	0.00	0.01	0.01	0.01
Subtotal	0.03	0.12	0.40	0.00	0.02	0.02	0.02

Table A.4.1-Alt 1-54. Total Emissions - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
LAND EX							
Excavator	0.02	0.07	0.23	0.00	0.01	0.01	0.01
Loader	0.01	0.03	0.11	0.00	0.01	0.01	0.01
End Dump Truck	0.02	0.09	0.30	0.00	0.02	0.02	0.01
Subtotal	0.05	0.19	0.64	0.00	0.04	0.04	0.03
CLAMSHELL DREDGING							
Clamshell Dredge	-	-	-	-	-	-	-
Secondary Engine	-	-	-	-	-	-	-
Bottom Dump Scow	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Tug Boat	0.06	0.60	1.64	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Work Tug	0.03	0.24	0.65	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.03	0.26	1.54	0.10	0.06	0.06	0.06
Secondary Engine	0.01	0.16	0.23	0.00	0.02	0.02	0.02
Subtotal	0.16	1.35	4.33	0.10	0.17	0.17	0.16

Table A.4.1-Alt 1-55. Total Emissions - Remove Cellular Sheetpile - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.02	0.07	0.23	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.03	0.13	0.42	0.00	0.02	0.02	0.02
Excavator	0.03	0.12	0.39	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.09	0.36	1.20	0.00	0.07	0.07	0.06

Table A.4.1-Alt 1-56. Total Emissions - Rock Revetment - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.02	0.15	0.31	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Front End Loader	0.02	0.10	0.32	0.00	0.02	0.02	0.02
Tug Boat	0.02	0.19	0.52	0.00	0.02	0.02	0.01
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.08	0.70	1.91	0.00	0.06	0.06	0.05
Secondary Engine	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.06	0.38	0.02	0.02	0.02	0.01
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.00
Subtotal	0.18	1.35	3.87	0.03	0.15	0.15	0.14

Table A.4.1-Alt 1-57. Total Emissions - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor

- Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	-	-	-	-	-	-	-
Secondary Engine	-	-	-	-	-	-	-
Bottom Dump Scow	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Tug Boat	0.02	0.17	0.45	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Work Tug	0.01	0.07	0.18	0.00	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.07	0.43	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.06	0.00	0.01	0.01	0.01
Subtotal	0.04	0.37	1.20	0.03	0.05	0.05	0.04

Table A.4.1-Alt 1-58. Total Emissions - Ground Improvements Pier D - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
STONE COLUMN INSTALLATION EQ							
Stone Column Crane - 100 Ton	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Vibratory Probe & Power Pack	0.09	0.40	1.32	0.00	0.07	0.07	0.06
Auger Crane - 100 Ton	0.02	0.07	0.24	0.00	0.01	0.01	0.01
Auger & Hydraulic Power Pack	0.03	0.13	0.44	0.00	0.02	0.02	0.02
Welding Machine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Excavator	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Loader	0.02	0.11	0.34	0.00	0.03	0.03	0.02
End Dump Truck	0.04	0.16	0.52	0.00	0.03	0.03	0.03
Subtotal	0.28	1.15	3.83	0.01	0.22	0.22	0.20
MARINE ROCK DELIVERY EQ							
Derrick Barge	0.02	0.05	0.32	0.00	0.01	0.01	0.01
Front End Loader	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Tug Boat	0.03	0.28	0.75	0.00	0.02	0.02	0.02
Tug Boat	0.08	0.70	1.89	0.00	0.06	0.06	0.05
Subtotal	0.13	1.06	3.07	0.00	0.09	0.09	0.09

Table A.4.1-Alt 1-59. Total Emissions - Demo - E12-13 Wharf - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Excavator	0.05	0.20	0.66	0.00	0.04	0.04	0.03
Flatbed Truck	0.01	0.04	0.16	0.00	0.01	0.01	0.01
End Dump Truck	0.07	0.30	1.00	0.00	0.05	0.05	0.05
Subtotal	0.14	0.59	1.97	0.00	0.11	0.11	0.10
WHARF DEMOLITION MARINE							
Derrick Barge	0.05	0.33	0.70	0.00	0.04	0.04	0.03
Secondary Engine	0.02	0.07	0.27	0.00	0.01	0.01	0.01
Work Tug	0.03	0.27	0.73	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Hydra-Crane	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Excavator	0.05	0.20	0.66	0.00	0.04	0.04	0.03
Flatbed Truck	0.01	0.04	0.16	0.00	0.01	0.01	0.01
End Dump Truck	0.05	0.23	0.75	0.00	0.04	0.04	0.04
Subtotal	0.23	1.25	3.62	0.01	0.18	0.18	0.17

Table A.4.1-Alt 1-60. Total Emissions - Lift #1 (~ -30) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.08	0.17	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.02	0.07	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Tug Boat	0.01	0.11	0.29	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.04	0.39	1.07	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Crew/Survey Boat	0.00	0.04	0.21	0.01	0.01	0.01	0.01
Secondary Engine	0.00	0.02	0.03	0.00	0.00	0.00	0.00
Subtotal	0.10	0.76	2.17	0.02	0.08	0.08	0.08

Table A.4.1-Alt 1-61. Total Emissions - Lift #2 (~ -15) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.05	0.10	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat	0.01	0.06	0.17	0.00	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.03	0.23	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.00	0.02	0.13	0.01	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.06	0.45	1.29	0.01	0.05	0.05	0.05

Table A.4.1-Alt 1-62. Total Emissions - Lift #3 (~ 0) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.04	0.09	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.03	0.09	0.00	0.01	0.01	0.00
Tug Boat	0.01	0.06	0.15	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.02	0.20	0.56	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.00	0.02	0.11	0.01	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.05	0.39	1.13	0.01	0.04	0.04	0.04

Table A.4.1-Alt 1-63. Total Emissions - Lift #4 (~ +15) - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.04	0.08	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Tug Boat	0.01	0.05	0.13	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.02	0.18	0.48	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.00	0.02	0.09	0.01	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Subtotal	0.04	0.34	0.97	0.01	0.04	0.04	0.03

Table A.4.1-Alt 1-64. Total Emissions - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Subtotal	0.00	0.01	0.04	0.00	0.00	0.00	0.00
ROLL SURCHARGE							
Scrapers	0.05	0.23	0.76	0.00	0.04	0.04	0.04
Dozers	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Loader	0.00	0.01	0.05	0.00	0.00	0.00	0.00
End Dump Truck	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.07	0.31	1.03	0.00	0.06	0.06	0.05

Table A.4.1-Alt 1-65. Total Emissions - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Subtotal	0.01	0.03	0.10	0.00	0.01	0.01	0.00
ROLL SURCHARGE							
Scrapers	0.08	0.34	1.14	0.00	0.06	0.06	0.06
Dozers	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Loader	0.00	0.02	0.07	0.00	0.01	0.01	0.00
End Dump Truck	0.01	0.06	0.21	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.11	0.46	1.54	0.00	0.08	0.08	0.08

Table A.4.1-Alt 1-66. Total Emissions - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Subtotal	0.01	0.03	0.10	0.00	0.01	0.01	0.00
ROLL SURCHARGE							
Scrapers	0.11	0.46	1.52	0.00	0.08	0.08	0.07
Dozers	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Loader	0.01	0.03	0.09	0.00	0.01	0.01	0.01
End Dump Truck	0.02	0.08	0.28	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Subtotal	0.15	0.62	2.05	0.00	0.11	0.11	0.10

Table A.4.1-Alt 1-67. Total Emissions - 4th Surcharge and Wick Drains - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Subtotal	0.01	0.03	0.09	0.00	0.00	0.00	0.00
ROLL SURCHARGE							
Scrapers	0.20	0.86	2.85	0.00	0.15	0.15	0.14
Dozers	0.02	0.07	0.22	0.00	0.01	0.01	0.01
Loader	0.01	0.05	0.17	0.00	0.01	0.01	0.01
End Dump Truck	0.04	0.16	0.52	0.00	0.03	0.03	0.03
Water Truck	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Subtotal	0.27	1.16	3.84	0.01	0.21	0.21	0.19

Table A.4.1-Alt 1-68. Total Emissions - Remove Surcharge - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.16	0.68	2.28	0.00	0.12	0.12	0.11
Dozers	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Loader	0.01	0.04	0.14	0.00	0.01	0.01	0.01
End Dump Truck	0.03	0.12	0.41	0.00	0.02	0.02	0.02
Water Truck	0.00	0.02	0.07	0.00	0.00	0.00	0.00
Subtotal	0.22	0.92	3.08	0.00	0.17	0.17	0.15

Table A.4.1-Alt 1-69. Total Emissions - Container Yard Development - POLB Middle Harbor Alt 1 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD UTILITIES							
Pipelaying	-	-	-	-	-	-	-
Auger	-	-	-	-	-	-	-
Crane	-	-	-	-	-	-	-
Grader	-	-	-	-	-	-	-
End Dump Truck	-	-	-	-	-	-	-
Flat Bed Truck	-	-	-	-	-	-	-
Concrete Truck	-	-	-	-	-	-	-
Front End Loader	-	-	-	-	-	-	-
Trencher	-	-	-	-	-	-	-
Subtotal	-						
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.03	0.11	0.41	0.00	0.02	0.02	0.02
Grader	0.03	0.13	0.47	0.00	0.03	0.03	0.02
Roller	0.07	0.31	1.00	0.00	0.08	0.08	0.07
Vibration Roller	0.07	0.32	1.02	0.00	0.08	0.08	0.07
Water Truck	0.02	0.09	0.35	0.00	0.02	0.02	0.02
Road Sweeper	0.03	0.11	0.42	0.00	0.02	0.02	0.02
Subtotal	0.26	1.07	3.66	0.01	0.25	0.25	0.23

Table A.4.1-Alt 1-70. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 1 (1 of 3)

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolish Existing Facilities							
Wharf Demolition Landside	0.11	0.44	1.48	0.00	0.08	0.08	0.08
Wharf Demolition Marine	0.18	0.93	2.71	0.00	0.14	0.14	0.13
Sheet Pile Bulkhead Demolition	0.11	0.45	1.51	0.00	0.08	0.08	0.08
Construct New Bulkhead							
Retaining Bulkhead Construction	0.01	0.06	0.19	0.00	0.01	0.01	0.01
Excavation Fronting E24							
Clamshell Dredging	0.17	1.45	4.66	0.11	0.18	0.18	0.17
Land Ex	0.08	0.35	1.16	0.00	0.07	0.07	0.06
Construct New Armor Slope							
Rock Placement, Push Off & Tub & Orange Peels	0.13	0.86	2.54	0.03	0.11	0.11	0.10
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0.06	0.25	0.85	0.00	0.05	0.05	0.04
Drive 24-In Octagonal Piles - Water	0.10	0.62	1.79	0.00	0.07	0.07	0.07
Drive Piles - Misc Activities	0.16	0.65	2.19	0.00	0.12	0.12	0.11
Reinforced Concrete Wharf	0.41	2.34	6.86	0.01	0.36	0.36	0.34
Retaining Bulkhead Construction	0.08	0.32	1.08	0.00	0.06	0.06	0.06
Utility Construction							
New Container Yard Utilities	-	-	-	-	-	-	-
Paving							
New Container Yard Construction - Paving	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Lighting, Striping, Crane Power							
New Container Yard Construction - Electrical	-	-	-	-	-	-	-
Prepare for Toe Diek/Construct Dike (1st Lift)							
Rock Placement, Push Off & Tub & Orange Peels	0.22	1.69	4.83	0.03	0.18	0.18	0.17
Fill within Dike							
Clamshell Dredging	0.04	0.37	1.20	0.03	0.05	0.05	0.04
Remaining Dike Lifts							
Rock Placement, Push Off & Tub & Orange Peels	0.22	1.69	4.83	0.03	0.18	0.18	0.17
Remaining Fill Lifts							
Clamshell Dredging	0.14	1.24	3.99	0.09	0.15	0.15	0.14
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0.05	0.21	0.72	0.00	0.04	0.04	0.04
Drive 24-In Octagonal Piles - Water	0.08	0.53	1.52	0.00	0.06	0.06	0.06
Drive Piles - Misc Activities	0.11	0.47	1.58	0.00	0.09	0.09	0.08
Reinforced Concrete Wharf	0.30	1.61	4.69	0.01	0.24	0.24	0.22
Retaining Bulkhead Construction	0.04	0.14	0.47	0.00	0.03	0.03	0.02
Construct South Mooring Dolphin							
Drive 24-In Octagonal Piles - Water	0.01	0.08	0.23	0.00	0.01	0.01	0.01
Wick Drains							
Wick Drains	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Remove Surcharge							
Roll Surcharge	0.05	0.21	0.68	0.00	0.04	0.04	0.03
Remove Surcharge to Slip 1 Fill Site							
Roll Surcharge	0.02	0.10	0.34	0.00	0.02	0.02	0.02
Utility Construction							
New Container Yard Utilities	-	-	-	-	-	-	-

Table A.4.1-Alt 1-70. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 1 (2 of 3)

Paving							
New Container Yard Construction - Paving	0.04	0.14	0.49	0.00	0.03	0.03	0.03
Lighting, Fence, Stripine, Crane Power							
New Container Yard Construction - Electrical	-	-	-	-	-	-	-
Construct Retaining Structure at Pier D Oil Area							
Retaining Bulkhead Construction	0.02	0.06	0.20	0.00	0.01	0.01	0.01
Excavate Trucking Material in Cell Bulkhead							
Land Ex	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Excavate Material Fronting Pier D							
Land Ex	0.05	0.19	0.64	0.00	0.04	0.04	0.03
Clamshell Dredging	0.16	1.35	4.33	0.10	0.17	0.17	0.16
Remove Cellular Sheetpile							
Sheet Pile Bulkhead Demolition	0.09	0.36	1.20	0.00	0.07	0.07	0.06
Rock Revetment							
Rock Placement, Push Off & Tub & Orange Peels	0.18	1.35	3.87	0.03	0.15	0.15	0.14
Hydraulic or Clamshell Dredge to -55ft							
Clamshell Dredging	0.04	0.37	1.20	0.03	0.05	0.05	0.04
Ground Improvements Pier D							
Stone Column Installation Eq	0.28	1.15	3.83	0.01	0.22	0.22	0.20
Marine Rock Delivery Eq	0.13	1.06	3.07	0.00	0.09	0.09	0.09
Demo - E12-13 Wharf							
Wharf Demolition Landside	0.14	0.59	1.97	0.00	0.11	0.11	0.10
Wharf Demolition Marine	0.23	1.25	3.62	0.01	0.18	0.18	0.17
Lift #1 (~ -30)							
Rock Placement, Push Off & Tub & Orange Peels	0.10	0.76	2.17	0.02	0.08	0.08	0.08
Lift #2 (~ -15)							
Rock Placement, Push Off & Tub & Orange Peels	0.06	0.45	1.29	0.01	0.05	0.05	0.05
Lift #3 (~ 0)							
Rock Placement, Push Off & Tub & Orange Peels	0.05	0.39	1.13	0.01	0.04	0.04	0.04
Lift #4 (~ +15)							
Rock Placement, Push Off & Tub & Orange Peels	0.04	0.34	0.97	0.01	0.04	0.04	0.03
Initial Surcharge and Wick Drains							
Wick Drains	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Roll Surcharge	0.07	0.31	1.03	0.00	0.06	0.06	0.05
2 nd Surcharge and Wick Drains							
Wick Drains	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Roll Surcharge	0.11	0.46	1.54	0.00	0.08	0.08	0.08
3rd Surcharge and Wick Drains							
Wick Drains	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Roll Surcharge	0.15	0.62	2.05	0.00	0.11	0.11	0.10
4th Surcharge and Wick Drains							
Wick Drains	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Roll Surcharge	0.27	1.16	3.84	0.01	0.21	0.21	0.19
Remove Surcharge							
Roll Surcharge	0.22	0.92	3.08	0.00	0.17	0.17	0.15
Container Yard Development							
New Container Yard Utilities	-	-	-	-	-	-	-
New Container Yard Construction - Paving	0.26	1.07	3.66	0.01	0.25	0.25	0.23
New Container Yard Construction - Electrical	-	-	-	-	-	-	-

Table A.4.1-Alt 1-70. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 1 (3 of 3)

Haul off dump trucks for spoil							
Triple Track Installation Demo Eq	-	-	-	-	-	-	-
Triple Track Utility Relocation Eq	-	-	-	-	-	-	-
Triple Track Grading Eq	-	-	-	-	-	-	-
Triple Track Retaining Wall Eq	-	-	-	-	-	-	-
Triple Track Trackwork Eq	-	-	-	-	-	-	-
Triple Track Miscellaneous Eq	-	-	-	-	-	-	-
Vibratory Compactor							
Grading	-	-	-	-	-	-	-
Survey	-	-	-	-	-	-	-
Civil	-	-	-	-	-	-	-
Electrical	-	-	-	-	-	-	-
Transformer Setup	-	-	-	-	-	-	-
Test	-	-	-	-	-	-	-
Paving	-	-	-	-	-	-	-
Fence Installation	-	-	-	-	-	-	-
Overhead Subtransmission Line Construction							
Installation of 160 LWS poles and removal of wood poles	-	-	-	-	-	-	-
Wire Replacement/Attachment and Termination	-	-	-	-	-	-	-
Final Connection of New Lines	-	-	-	-	-	-	-
Other Emissions							
Fugitive Dust	-	-	-	-	-	-	-
Commuter Emissions	-	-	-	-	-	-	-
Total Emissions	5.65	31.66	98.11	0.61	4.69	4.69	4.33

(1) These data represent 90% control of fugitive dust only.

Table A.4.1-Alt 1-71. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	60	69,144
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	60	126,000
Excavator	428	0.57	1	244	8	1,952	60	117,101
Flatbed Truck	230	0.25	1	58	8	460	60	27,600
Welding Machine	26	0.50	1	13	8	104	60	6,240
Generator	13	0.74	1	10	8	77	60	4,618
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	60	26,832
Excavator	428	0.57	1	244	8	1,952	60	117,101
Flatbed Truck	230	0.25	1	58	8	460	60	27,600
End Dump Truck	310	0.30	4	372	8	2,976	60	178,560
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	60	123,840
Secondary Engine	200	0.50	1	100	8	800	60	48,000
Work Tug	750	0.20	1	150	8	1,200	60	72,000
Secondary Engine	150	0.50	1	75	8	600	60	36,000
Hydra-Crane	130	0.43	1	56	8	447	60	26,832
Excavator	428	0.57	1	244	8	1,952	60	117,101
Flatbed Truck	230	0.25	1	58	8	460	60	27,600
End Dump Truck	310	0.30	3	279	8	2,232	60	133,920

Table A.4.1-Alt 1-72. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	9	10,372
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	9	18,900
Flatbed Truck	230	0.25	1	58	8	460	9	4,140
Welding Machine	26	0.45	1	12	8	94	9	842
Generator	13	0.74	1	10	8	77	9	693

Table A.4.1-Alt 1-73. Activity Data - Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	30	0
Secondary Engine	500	0.00	1	0	24	0	30	0
Bottom Dump Scow	250	0.05	1	13	24	300	30	9,000
Tug Boat	2,500	0.30	1	750	6	4,500	30	135,000
Secondary Engine	400	0.25	1	100	6	600	30	18,000
Work Tug	750	0.20	1	150	12	1,800	30	54,000
Secondary Engine	150	0.25	1	38	12	450	30	13,500
Crew/Survey Boat	400	0.30	1	120	24	2,880	30	86,400
Secondary Engine	80	0.50	1	40	24	960	30	28,800

Table A.4.1-Alt 1-74. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	60	123,840
Secondary Engine	200	0.50	1	100	8	800	60	48,000
Front End Loader	400	0.68	1	272	8	2,176	60	130,560
Tug Boat	1,200	0.20	1	240	8	1,920	60	115,200
Secondary Engine	150	0.50	1	75	8	600	60	36,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.20	1	500	4	2,000	60	120,000
Secondary Engine	400	0.50	1	200	4	800	60	48,000
Crew/Survey Boat	400	0.30	1	120	8	960	60	57,600
Secondary Engine	80	0.50	1	40	8	320	60	19,200

Table A.4.1-Alt 1-75. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	36	19,014
Crane - 200 Ton	335	0.43	1	144	8	1,152	36	41,905
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	36	58,909
Piledriving Hammer	211	0.50	1	106	8	844	36	30,691
Loader-Wheel	300	0.30	1	90	8	720	36	26,182
Jet Pump	33	0.74	1	24	8	195	36	7,104
End Dump Truck	310	0.25	1	78	8	620	36	22,320
Truck-Flatbed	230	0.25	1	58	8	460	36	16,560
Truck-Lowboy	350	0.25	1	88	8	700	36	25,200
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	42	48,017
Derrick Barge	380	0.43	1	163	8	1,307	42	54,467
Secondary Engine	195	0.50	1	98	8	780	42	32,760
Piledriving Hammer	211	0.50	1	106	8	844	42	35,167
End Dump Truck	310	0.25	1	78	8	620	42	26,040
Tugboat	1,000	0.50	1	500	8	4,000	42	166,667
Secondary Engine	100	0.50	1	50	8	400	42	16,800
Truck-Flatbed	230	0.25	1	58	8	460	42	19,320
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	175	341,544
Loader-Wheel	180	0.30	1	54	8	432	175	75,600
Hydraulic Crane	152	0.43	1	65	8	523	175	91,504
Crane - 150 Ton	335	0.43	1	144	8	1,152	175	201,670
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	175	91,504
Crane - 150 Ton	335	0.43	1	144	8	1,152	175	201,670
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	175	201,670
Secondary Engine	107	0.50	1	54	8	428	175	74,900
Concrete Pump	210	0.74	1	155	8	1,243	175	217,560
Concrete Trucks	285	0.25	5	321	8	2,565	175	448,875
Sandblaster w/air compressor	50	0.00	1	0	8	0	175	0
Truck-Flatbed	230	0.25	1	58	8	460	175	80,500
Tugboat	1,000	0.20	1	200	8	1,600	175	280,000
Secondary Engine	100	0.40	1	40	8	320	175	56,000
Concrete Saw	35	0.10	1	4	8	28	175	4,900
Truck Crane - 65 ton	365	0.20	1	73	8	584	175	102,200
Boom Truck	350	0.20	1	70	8	560	175	98,000

Table A.4.1-Alt 1-76. Activity Data - CY Development - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	21	12,791
Grader	215	0.40	1	86	8	688	21	14,706
Roller	151	0.40	3	181	8	1,450	21	30,985
Vibration Roller	154	0.40	3	185	8	1,478	21	31,601
Water Truck	210	0.30	1	63	8	504	21	10,773
Road Sweeper	190	0.40	1	76	8	608	21	12,996

Table A.4.1-Alt 1-77. Activity Data -Dredge to -55 ft - POLB Middle Harbor Alt 1 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	20	0
Secondary Engine	500	0.00	1	0	24	0	20	0
Bottom Dump Scow	250	0.05	1	13	24	300	20	6,000
Tug Boat	2,500	0.30	1	750	6	4,500	20	90,000
Secondary Engine	400	0.25	1	100	6	600	20	12,000
Work Tug	750	0.20	1	150	12	1,800	20	36,000
Secondary Engine	150	0.25	1	38	12	450	20	9,000
Crew/Survey Boat	400	0.30	1	120	24	2,880	20	57,600
Secondary Engine	80	0.50	1	40	24	960	20	19,200

Table A.4.1-Alt 1-78. Total Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.03	0.12	0.39	0.00	0.02	0.02	0.02
Excavator	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.08	0.33	1.11	0.00	0.06	0.06	0.06
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.03	0.08	0.00	0.01	0.01	0.01
Excavator	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
End Dump Truck	0.04	0.17	0.55	0.00	0.03	0.03	0.03
Subtotal	0.08	0.32	1.08	0.00	0.06	0.06	0.06
WHARF DEMOLITION MARINE							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Work Tug	0.02	0.15	0.40	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Hydra-Crane	0.01	0.03	0.08	0.00	0.01	0.01	0.01
Excavator	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
End Dump Truck	0.03	0.12	0.41	0.00	0.02	0.02	0.02
Subtotal	0.13	0.68	1.99	0.00	0.10	0.10	0.09

Table A.4.1-Alt 1-79. Total Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Flatbed Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.01	0.03	0.11	0.00	0.01	0.01	0.01

Table A.4.1-Alt 1-80. Total Emissions -Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor

- Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat	0.03	0.28	0.76	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Work Tug	0.01	0.11	0.30	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.07	0.62	2.00	0.05	0.08	0.08	0.07

Table A.4.1-Alt 1-81. Total Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Front End Loader	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Tug Boat	0.03	0.24	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.03	0.25	0.67	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.15	1.04	3.05	0.03	0.13	0.13	0.12

Table A.4.1-Alt 1-82. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Crane - 200 Ton	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.03	0.09	0.00	0.01	0.01	0.00
Loader-Wheel	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Jet Pump	0.00	0.01	0.04	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.02	0.07	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Truck-Lowboy	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Subtotal	0.06	0.23	0.78	0.00	0.04	0.04	0.04
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Piledriving Hammer	0.01	0.03	0.11	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Tugboat	0.04	0.34	0.93	0.00	0.03	0.03	0.03
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.01
Truck-Flatbed	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Subtotal	0.09	0.58	1.66	0.00	0.07	0.07	0.06
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.08	0.32	1.05	0.00	0.06	0.06	0.05
Loader-Wheel	0.02	0.06	0.23	0.00	0.01	0.01	0.01
Hydraulic Crane	0.02	0.09	0.28	0.00	0.02	0.02	0.02
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Subtotal	0.16	0.65	2.19	0.00	0.12	0.12	0.11
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.02	0.09	0.28	0.00	0.02	0.02	0.02
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Crane Barge - 150 ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.20	0.27	0.00	0.02	0.02	0.02
Concrete Pump	0.05	0.18	0.67	0.00	0.04	0.04	0.03
Concrete Trucks	0.10	0.42	1.39	0.00	0.07	0.07	0.07
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Tugboat	0.06	0.58	1.57	0.00	0.05	0.05	0.04
Secondary Engine	0.01	0.15	0.20	0.00	0.02	0.02	0.02
Concrete Saw	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.02	0.09	0.32	0.00	0.02	0.02	0.02
Boom Truck	0.02	0.09	0.30	0.00	0.02	0.02	0.01
Subtotal	0.41	2.23	6.52	0.01	0.34	0.34	0.31

Table A.4.1-Alt 1-83. Total Emissions - DCY Development - POLB Middle Harbor Alt 1 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Grader	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Roller	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Vibration Roller	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Road Sweeper	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Subtotal	0.03	0.10	0.35	0.00	0.02	0.02	0.02

Table A.4.1-Alt 1-84. Total Emissions - Dredge to -55 ft - POLB Middle Harbor Alt 1 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Tug Boat	0.02	0.19	0.50	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Work Tug	0.01	0.07	0.20	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.05	0.41	1.33	0.03	0.05	0.05	0.05

Table A.4.1-Alt 1-85. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1 - Stage 2

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolish Existing Facilities							
Sheet Pile Bulkhead Demolition	0.08	0.33	1.11	0.00	0.06	0.06	0.06
Wharf Demolition Landside	0.08	0.32	1.08	0.00	0.06	0.06	0.06
Wharf Demolition Marine	0.13	0.68	1.99	0.00	0.10	0.10	0.09
Construct New Bulkhead (Install Transition Bulkhead)							
Retaining Bulkhead Construction	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Excavation Fronting E25 and Dispose Slip 1							
Clamshell Dredging	0.07	0.62	2.00	0.05	0.08	0.08	0.07
Construct New Armor Slope							
Rock Placement, Push Off & Tub & Orange Peels	0.15	1.04	3.05	0.03	0.13	0.13	0.12
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0.06	0.23	0.78	0.00	0.04	0.04	0.04
Drive 24-In Octagonal Piles - Water	0.09	0.58	1.66	0.00	0.07	0.07	0.06
Drive Piles - Misc Activities	0.16	0.65	2.19	0.00	0.12	0.12	0.11
Reinforced Concrete Wharf	0.41	2.23	6.52	0.01	0.34	0.34	0.31
CY Development							
New Container Yard Construction - Paving	0.03	0.10	0.35	0.00	0.02	0.02	0.02
Dredge to -55 ft							
Clamshell Dredging	0.05	0.41	1.33	0.03	0.05	0.05	0.05
Other Peak Daily Emissions							
Fugitive Emissions	-	-	-	-	-	-	-
Commuter Emissions	-	-	-	-	-	-	-
Dredging Activities							
Dredging Activities	0.12	1.04	3.33	0.08	0.13	0.13	0.12
Peak Daily Emissions	0.20	1.45	4.38	0.06	-	-	-
Mitigated Peak Daily Emissions (1)	0.20	1.45	4.38	0.06	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	NA	70	100

Table A.4.1-Alt 1-86. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	120	53,664
Excavator	428	0.57	1	244	8	1,952	120	234,202
Flatbed Truck	230	0.25	1	58	8	460	120	55,200
End Dump Truck	310	0.30	4	372	8	2,976	120	357,120
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	120	247,680
Secondary Engine	200	0.50	1	100	8	800	120	96,000
Work Tug	750	0.20	1	150	8	1,200	120	144,000
Secondary Engine	150	0.50	1	75	8	600	120	72,000
Hydra-Crane	130	0.43	1	56	8	447	120	53,664
Excavator	428	0.57	1	244	8	1,952	120	234,202
Flatbed Truck	230	0.25	1	58	8	460	120	55,200
End Dump Truck	310	0.30	3	279	8	2,232	120	267,840
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	120	138,288
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	120	252,000
Excavator	428	0.57	1	244	8	1,952	120	234,202
Flatbed Truck	230	0.25	1	58	8	460	120	55,200
Welding Machine	26	0.50	1	13	8	104	120	12,480
Generator	13	0.74	1	10	8	77	120	9,235

Table A.4.1-Alt 1-87. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	12	13,829
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	12	25,200
Flatbed Truck	230	0.25	1	58	8	460	12	5,520
Welding Machine	26	0.45	1	12	8	94	12	1,123
Generator	13	0.74	1	10	8	77	12	924

Table A.4.1-Alt 1-88. Activity Data - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	27	0
Secondary Engine	500	0.00	1	0	24	0	27	0
Bottom Dump Scow	250	0.05	1	13	24	300	27	8,100
Tug Boat	2,500	0.30	1	750	6	4,500	27	121,500
Secondary Engine	400	0.25	1	100	6	600	27	16,200
Work Tug	750	0.20	1	150	12	1,800	27	48,600
Secondary Engine	150	0.25	1	38	12	450	27	12,150
Crew/Survey Boat	400	0.30	1	120	24	2,880	27	77,760
Secondary Engine	80	0.50	1	40	24	960	27	25,920

Table A.4.1-Alt 1-89. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	90	185,760
Secondary Engine	200	0.50	1	100	8	800	90	72,000
Front End Loader	400	0.68	1	272	8	2,176	90	195,840
Tug Boat	1,200	0.20	1	240	8	1,920	90	172,800
Secondary Engine	150	0.50	1	75	8	600	90	54,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	90	639,450
Secondary Engine	400	0.50	1	200	6	1,160	90	104,400
Crew/Survey Boat	400	0.30	1	120	8	960	90	86,400
Secondary Engine	80	0.50	1	40	8	320	90	28,800

Table A.4.1-Alt 1-90. Activity Data - Wharf Construction - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	67	34,859
Crane - 200 Ton	335	0.43	1	144	8	1,152	67	76,827
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	67	108,000
Piledriving Hammer	211	0.50	1	106	8	844	67	56,267
Loader-Wheel	300	0.30	1	90	8	720	67	48,000
Jet Pump	33	0.74	1	24	8	195	67	13,024
End Dump Truck	310	0.25	1	78	8	620	67	41,540
Truck-Flatbed	230	0.25	1	58	8	460	67	30,820
Truck-Lowboy	350	0.25	1	88	8	700	67	46,900
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	76	88,031
Derrick Barge	380	0.43	1	163	8	1,307	76	99,856
Secondary Engine	195	0.50	1	98	8	780	76	59,280
Piledriving Hammer	211	0.50	1	106	8	844	76	64,472
End Dump Truck	310	0.25	1	78	8	620	76	47,120
Tugboat	1,000	0.50	1	500	8	4,000	76	305,556
Secondary Engine	100	0.50	1	50	8	400	76	30,400
Truck-Flatbed	230	0.25	1	58	8	460	76	34,960
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	245	478,162
Loader-Wheel	180	0.30	1	54	8	432	245	105,840
Hydraulic Crane	152	0.43	1	65	8	523	245	128,106
Crane - 150 Ton	335	0.43	1	144	8	1,152	245	282,338
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	245	128,106
Crane - 150 Ton	335	0.43	1	144	8	1,152	245	282,338
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	245	282,338
Secondary Engine	107	0.50	1	54	8	428	245	104,860
Concrete Pump	210	0.74	1	155	8	1,243	245	304,584
Concrete Trucks	285	0.25	5	321	8	2,565	245	628,425
Sandblaster w/air compressor	50	0.00	1	0	8	0	245	0
Truck-Flatbed	230	0.25	1	58	8	460	245	112,700
Tugboat	1,000	0.20	1	200	8	1,600	245	392,000
Secondary Engine	100	0.40	1	40	8	320	245	78,400
Concrete Saw	35	0.10	1	4	8	28	245	6,860
Truck Crane - 65 ton	365	0.20	1	73	8	584	245	143,080
Boom Truck	350	0.20	1	70	8	560	245	137,200

Table A.4.1-Alt 1-91. Activity Data - Construct E27 Bulkhead - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	40	46,096
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	40	84,000
Flatbed Truck	230	0.25	1	58	8	460	40	18,400
Welding Machine	26	0.45	1	12	8	94	40	3,744
Generator	13	0.74	1	10	8	77	40	3,078

Table A.4.1-Alt 1-92. Activity Data - CY Development - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD UTILITIES								
Pipelayer	300	0.50	1	150	8	1,200		0
Auger	125	0.50	1	63	8	500		0
Crane	130	0.43	1	56	8	447		0
Grader	215	0.61	3	393	8	3,148		0
End Dump Truck	310	0.25	1	78	8	620		0
Flat Bed Truck	230	0.25	2	115	8	920		0
Concrete Truck	250	0.60	4	600	8	4,800		0
Front End Loader	400	0.40	2	320	8	2,560		0
Trencher	200	0.20	1	40	8	320		0
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	105	62,832
Grader	215	0.40	1	86	8	688	105	72,240
Roller	151	0.40	3	181	8	1,450	105	152,208
Vibration Roller	154	0.40	3	185	8	1,478	105	155,232
Water Truck	210	0.30	1	63	8	504	105	52,920
Road Sweeper	190	0.40	1	76	8	608	105	63,840
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL								
Flat Bed Truck	230	0.25	1	58	8	460		0
Truck Crane	130	0.20	1	26	8	208		0
Auger	125	0.50	1	63	8	500		0

Table A.4.1-Alt 1-93. Activity Data - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 1 P1/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	30	0
Secondary Engine	500	0.00	1	0	24	0	30	0
Bottom Dump Scow	250	0.05	1	13	24	300	30	9,000
Tug Boat	2,500	0.30	1	750	6	4,500	30	135,000
Secondary Engine	400	0.25	1	100	6	600	30	18,000
Work Tug	750	0.20	1	150	12	1,800	30	54,000
Secondary Engine	150	0.25	1	38	12	450	30	13,500
Crew/Survey Boat	400	0.30	1	120	24	2,880	30	86,400
Secondary Engine	80	0.50	1	40	24	960	30	28,800

Table A.4.1-Alt 1-94. Total Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 1 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Excavator	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Flatbed Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
End Dump Truck	0.08	0.33	1.10	0.00	0.06	0.06	0.05
Subtotal	0.15	0.64	2.16	0.00	0.12	0.12	0.11
WHARF DEMOLITION MARINE							
Derrick Barge	0.05	0.36	0.76	0.00	0.04	0.04	0.04
Secondary Engine	0.02	0.08	0.30	0.00	0.02	0.02	0.01
Work Tug	0.03	0.30	0.81	0.00	0.02	0.02	0.02
Secondary Engine	0.02	0.07	0.22	0.00	0.02	0.02	0.02
Hydra-Crane	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Excavator	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Flatbed Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
End Dump Truck	0.06	0.25	0.83	0.00	0.04	0.04	0.04
Subtotal	0.26	1.37	3.97	0.01	0.20	0.20	0.19
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.03	0.13	0.43	0.00	0.02	0.02	0.02
Vibratory Hammer & Power Pack	0.06	0.23	0.78	0.00	0.04	0.04	0.04
Excavator	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Flatbed Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.02	0.07	0.00	0.01	0.01	0.01
Generator	0.01	0.02	0.05	0.00	0.00	0.00	0.00
Subtotal	0.16	0.66	2.22	0.00	0.12	0.12	0.11

Table A.4.1-Alt 1-95. Total Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 1 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Flatbed Truck	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.04	0.15	0.00	0.01	0.01	0.01

Table A.4.1-Alt 1-96. Total Emissions - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor

- Alternative 1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat	0.03	0.25	0.68	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Work Tug	0.01	0.10	0.27	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.11	0.64	0.04	0.03	0.03	0.02
Secondary Engine	0.01	0.07	0.09	0.00	0.01	0.01	0.01
Subtotal	0.07	0.56	1.80	0.04	0.07	0.07	0.06

Table A.4.1-Alt 1-97. Total Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 1 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.04	0.27	0.57	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.06	0.22	0.00	0.01	0.01	0.01
Front End Loader	0.04	0.18	0.60	0.00	0.03	0.03	0.03
Tug Boat	0.04	0.36	0.97	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.14	1.32	3.58	0.00	0.11	0.11	0.10
Secondary Engine	0.02	0.10	0.32	0.00	0.02	0.02	0.02
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.34	2.53	7.25	0.05	0.28	0.28	0.26

Table A.4.1-Alt 1-98. Total Emissions - Wharf Construction - POLB Middle Harbor Alt 1 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Crane - 200 Ton	0.02	0.07	0.24	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.02	0.10	0.33	0.00	0.02	0.02	0.02
Piledriving Hammer	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Loader-Wheel	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Jet Pump	0.01	0.02	0.07	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Truck-Flatbed	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Truck-Lowboy	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Subtotal	0.11	0.42	1.44	0.00	0.08	0.08	0.08
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.02	0.08	0.27	0.00	0.01	0.01	0.01
Derrick Barge	0.02	0.09	0.31	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.05	0.20	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Tugboat	0.07	0.63	1.71	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.08	0.11	0.00	0.01	0.01	0.01
Truck-Flatbed	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Subtotal	0.16	1.06	3.03	0.00	0.13	0.13	0.12
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.11	0.44	1.48	0.00	0.08	0.08	0.07
Loader-Wheel	0.02	0.09	0.33	0.00	0.02	0.02	0.02
Hydraulic Crane	0.03	0.12	0.40	0.00	0.03	0.03	0.03
Crane - 150 Ton	0.06	0.26	0.87	0.00	0.05	0.05	0.04
Subtotal	0.22	0.91	3.07	0.00	0.17	0.17	0.16
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.03	0.12	0.40	0.00	0.03	0.03	0.03
Crane - 150 Ton	0.06	0.26	0.87	0.00	0.05	0.05	0.04
Crane Barge - 150 ton	0.06	0.26	0.87	0.00	0.05	0.05	0.04
Secondary Engine	0.02	0.27	0.38	0.00	0.03	0.03	0.03
Concrete Pump	0.07	0.25	0.94	0.00	0.05	0.05	0.05
Concrete Trucks	0.14	0.58	1.94	0.00	0.10	0.10	0.10
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.09	0.35	0.00	0.02	0.02	0.02
Tugboat	0.09	0.81	2.19	0.00	0.06	0.06	0.06
Secondary Engine	0.02	0.20	0.29	0.00	0.03	0.03	0.02
Concrete Saw	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.03	0.13	0.44	0.00	0.02	0.02	0.02
Boom Truck	0.03	0.13	0.42	0.00	0.02	0.02	0.02
Subtotal	0.58	3.13	9.13	0.01	0.47	0.47	0.44

Table A.4.1-Alt 1-99. Total Emissions - Construct E27 Bulkhead - POLB Middle Harbor Alt 1 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.02	0.08	0.26	0.00	0.01	0.01	0.01
Flatbed Truck	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.04	0.15	0.50	0.00	0.03	0.03	0.03

Table A.4.1-Alt 1-100. Total Emissions - CY Development - POLB Middle Harbor Alt 1 P1/S3

Table A.4.1-Alt 1-101. Total Emissions - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 1 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat	0.03	0.28	0.76	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Work Tug	0.01	0.11	0.30	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.04	0.05	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.07	0.64	2.00	0.05	0.08	0.08	0.07

Table A.4.1-Alt 1-102. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 1/Stage 3

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolish Existing Facilities							
Wharf Demolition Landside	0.15	0.64	2.16	0.00	0.12	0.12	0.11
Wharf Demolition Marine	0.26	1.37	3.97	0.01	0.20	0.20	0.19
Sheet Pile Bulkhead Demolition	0.16	0.66	2.22	0.00	0.12	0.12	0.11
Construct New Bulkhead							
Retaining Bulkhead Construction	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Excavation Fronting E26 and Dispose Slip 1							
Clamshell Dredging	0.07	0.56	1.80	0.04	0.07	0.07	0.06
Construct New Armor Slope							
Rock Placement, Push Off & Tub & Orange Peels	0.34	2.53	7.25	0.05	0.28	0.28	0.26
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0.11	0.42	1.44	0.00	0.08	0.08	0.08
Drive 24-In Octagonal Piles - Water	0.16	1.06	3.03	0.00	0.13	0.13	0.12
Drive Piles - Misc Activities	0.22	0.91	3.07	0.00	0.17	0.17	0.16
Reinforced Concrete Wharf	0.58	3.13	9.13	0.01	0.47	0.47	0.44
Construct E27 Bulkhead							
Retaining Bulkhead Construction	0.04	0.15	0.50	0.00	0.03	0.03	0.03
CY Development							
Vibratory Hammer & Power Pack	-	-	-	-	-	-	-
Flatbed Truck	0.12	0.50	1.73	0.00	0.12	0.12	0.11
Welding Machine	-	-	-	-	-	-	-
Hydraulic Dredge to -55ft							
Clamshell Dredging	0.07	0.64	2.00	0.05	0.08	0.08	0.07
Other Peak Daily Emissions							
Fugitive Dust	-	-	-	-	-	-	-
Commuter Emissions	-	-	-	-	-	-	-
Dredging Activities							
Dredging Activities	0.14	1.20	3.80	0.09	0.15	0.15	0.14
Peak Daily Emissions	1.14	6.17	18.68	0.07	-	-	-
Mitigated Peak Daily Emissions	1.14	6.17	18.68	0.07	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	NA	70	100

(1) These data represent 90% control of fugitive dust only.

Table A.4.1-Alt 1-103. Activity Data - Demolition - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	140	62,608
Excavator	428	0.57	1	244	8	1,952	140	273,235
Flatbed Truck	230	0.25	1	58	8	460	140	64,400
End Dump Truck	310	0.30	4	372	8	2,976	140	416,640

Table A.4.1-Alt 1-104. Activity Data - Railyard Construction - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
INTERMODAL YARD CONSTRUCTION								
Backhoe	102	0.40	1	41	8	326		
Excavator	428	0.40	1	171	8	1,370		
Ballast Spreader	100	0.40	1	40	8	320		
Ballast Tamper	100	0.40	1	40	8	320		
Generator Set	23	0.74	2	34	8	272		
Roller	151	0.40	1	60	8	483		
Grader	215	0.40	1	86	8	688		
Truck Mounted Crane	130	0.30	1	39	8	312		
Forklift	103	0.30	1	31	8	247		
Flatbed Truck	230	0.25	2	115	8	920		
End Dump Truck	310	0.25	2	155	8	1,240		
Water Truck	210	0.25	1	53	8	420		

Table A.4.1-Alt 1-105. Activity Data - Container Yard Development (F1 - F4) - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
NEW CONTAINER YARD UTILITIES								
Pipelayer	300	0.50	1	150	8	1,200		0
Auger	125	0.50	1	63	8	500		0
Crane	130	0.43	1	56	8	447		0
Grader	215	0.61	3	393	8	3,148		0
End Dump Truck	310	0.25	1	78	8	620		0
Flat Bed Truck	230	0.25	2	115	8	920		0
Concrete Truck	250	0.60	4	600	8	4,800		0
Front End Loader	400	0.40	2	320	8	2,560		0
Trencher	200	0.20	1	40	8	320		0
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	112	67,021
Grader	215	0.40	1	86	8	688	112	77,056
Roller	151	0.40	3	181	8	1,450	112	162,355
Vibration Roller	154	0.40	3	185	8	1,478	112	165,581
Water Truck	210	0.30	1	63	8	504	112	56,448
Road Sweeper	190	0.40	1	76	8	608	112	68,096
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL								
Flat Bed Truck	230	0.25	1	58	8	460	112	
Truck Crane	130	0.20	1	26	8	208	112	
Auger	125	0.50	1	63	8	500	112	

Table A.4.1-Alt 1-106. Activity Data - Demo Existing F1 -4, F6 Wharf - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	4	372	8	2,976	182	541,632
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	182	375,648
Secondary Engine	200	0.50	1	100	8	800	182	145,600
Work Tug	750	0.20	1	150	8	1,200	182	218,400
Secondary Engine	150	0.50	1	75	8	600	182	109,200
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	3	279	8	2,232	182	406,224

Table A.4.1-Alt 1-107. Activity Data - Construct East Basain Retaining Dike - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	90	185,760
Secondary Engine	200	0.50	1	100	8	800	90	72,000
Front End Loader	400	0.68	1	272	8	2,176	90	195,840
Tug Boat	1,200	0.20	1	240	8	1,920	90	172,800
Secondary Engine	150	0.50	1	75	8	600	90	54,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	90	639,450
Secondary Engine	400	0.50	1	200	6	1,160	90	104,400
Crew/Survey Boat	400	0.30	1	120	8	960	90	86,400
Secondary Engine	80	0.50	1	40	8	320	90	28,800

Table A.4.1-Alt 1-108. Activity Data -Slip/Basin Fill & Surcharge East- POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CUTTER SUCTION DREDGING- Spill Barge (no booster)								
Cutter Suction Dredge	8,400	0.00	1	0	24	0	34	0
Secondary Engine	4,800	0.00	1	0	24	0	34	0
Work Tug	750	0.25	2	375	12	4,500	34	154,350
Secondary Engine	150	0.50	1	75	12	900	34	30,600
Derrick Barge	600	0.10	1	60	24	1,440	34	49,392
Secondary Engine	200	0.50	1	100	24	2,400	34	81,600
Spill Barge	300	0.20	1	60	24	1,440	34	49,392
Secondary Engine	50	0.50	1	25	24	600	34	20,400
Crew/Survey Boat	400	0.30	1	120	24	2,880	34	98,784
Secondary Engine	80	0.50	1	40	24	960	34	32,640
CUTTER SUCTION DREDGING- Land Disposal (no booster)								
Cutter Suction Dredge	8,400	0.00	1	0	24	0	34	0
Secondary Engine	4,800	0.00	1	0	24	0	34	0
Work Tug	750	0.25	2	375	12	4,500	34	154,350
Secondary Engine	150	0.50	1	75	12	900	34	30,600
Derrick Barge	600	0.10	1	60	24	1,440	34	49,392
Secondary Engine	200	0.50	1	100	24	2,400	34	81,600
Hydra-crane	130	0.43	1	56	24	1,342	34	46,017
Dozer	285	0.30	3	257	24	6,156	34	211,151
Crew/Survey Boat	400	0.20	1	80	24	1,920	34	65,856
Secondary Engine	80	0.50	1	40	24	960	34	32,640
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	147	150,998

Table A.4.1-Alt 1-109. Activity Data - Roll Surcharge - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	42	861,840
Dozers	285	0.35	2	200	8	1,596	42	67,032
Loader	170	0.30	3	153	8	1,224	42	51,408
End Dump Truck	310	0.25	6	465	8	3,720	42	156,240
Water Truck	310	0.25	1	78	8	620	42	26,040

Table A.4.1-Alt 1-110. Total Emissions - Demolition - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.06	0.19	0.00	0.02	0.02	0.01
Excavator	0.06	0.25	0.84	0.00	0.05	0.05	0.04
Flatbed Truck	0.01	0.05	0.20	0.00	0.01	0.01	0.01
End Dump Truck	0.09	0.39	1.29	0.00	0.07	0.07	0.06
Subtotal	0.18	0.75	2.52	0.00	0.14	0.14	0.13

Table A.4.1-Alt 1-111. Total Emissions - Container Yard Development - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD UTILITIES							
Pipeler	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auger	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Front End Loader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trencher	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00						
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.01	0.06	0.21	0.00	0.01	0.01	0.01
Grader	0.02	0.06	0.24	0.00	0.01	0.01	0.01
Roller	0.04	0.16	0.50	0.00	0.04	0.04	0.04
Vibration Roller	0.04	0.16	0.51	0.00	0.04	0.04	0.04
Water Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Road Sweeper	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Subtotal	0.13	0.54	1.84	0.00	0.12	0.12	0.11
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL							
Flat Bed Truck	0.01	0.04	0.16	0.00	0.01	0.01	0.01
Truck Crane	0.01	0.02	0.07	0.00	0.01	0.01	0.01
Auger	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Subtotal	0.03	0.12	0.40	0.00	0.03	0.03	0.03

Table A.4.1-Alt 1-112. Total Emissions - Demo Existing F1 - F4, F6 Wharf - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01
End Dump Truck	0.12	0.50	1.67	0.00	0.09	0.09	0.08
Subtotal	0.23	0.98	3.28	0.01	0.18	0.18	0.17
WHARF DEMOLITION MARINE							
Derrick Barge	0.08	0.55	1.16	0.00	0.06	0.06	0.06
Secondary Engine	0.03	0.12	0.45	0.00	0.02	0.02	0.02
Work Tug	0.05	0.45	1.22	0.00	0.04	0.04	0.03
Secondary Engine	0.02	0.10	0.34	0.00	0.03	0.03	0.02
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01
End Dump Truck	0.09	0.38	1.25	0.00	0.07	0.07	0.06
Subtotal	0.39	2.08	6.03	0.01	0.31	0.31	0.28

Table A.4.1-Alt 1-113. Total Emissions - Construct East Basin Retaining Dike - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.04	0.27	0.57	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.06	0.22	0.00	0.01	0.01	0.01
Front End Loader	0.04	0.18	0.60	0.00	0.03	0.03	0.03
Tug Boat	0.04	0.36	0.97	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.14	1.32	3.58	0.00	0.11	0.11	0.10
Secondary Engine	0.02	0.10	0.32	0.00	0.02	0.02	0.02
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.34	2.53	7.25	0.05	0.28	0.28	0.26

Table A.4.1-Alt 1-114. Total Emissions - Slip/Basin Fill & Surcharge East - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CUTTER SUCTION DREDGING- Spill Barge (no booster)							
Cutter Suction Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Work Tug	0.03	0.32	0.86	0.00	0.03	0.03	0.02
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.07	0.15	0.00	0.01	0.01	0.01
Secondary Engine	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Spill Barge	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.02	0.14	0.81	0.05	0.03	0.03	0.03
Secondary Engine	0.01	0.09	0.12	0.00	0.01	0.01	0.01
Subtotal	0.12	0.79	2.56	0.05	0.12	0.12	0.11
CUTTER SUCTION DREDGING- Land Disposal (no booster)							
Cutter Suction Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Work Tug	0.03	0.32	0.86	0.00	0.03	0.03	0.02
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.07	0.15	0.00	0.01	0.01	0.01
Secondary Engine	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Hydra-crane	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Dozer	0.14	0.36	1.16	0.00	0.10	0.10	0.10
Crew/Survey Boat	0.01	0.09	0.54	0.03	0.02	0.02	0.02
Secondary Engine	0.01	0.09	0.12	0.00	0.01	0.01	0.01
Subtotal	0.24	1.06	3.33	0.04	0.20	0.20	0.18
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.03	0.14	0.47	0.00	0.02	0.02	0.02
Subtotal	0.03	0.14	0.47	0.00	0.02	0.02	0.02

Table A.4.1-Alt 1-115. Total Emissions - Roll Surcharge - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.19	0.80	2.66	0.00	0.14	0.14	0.13
Dozers	0.01	0.06	0.21	0.00	0.01	0.01	0.01
Loader	0.01	0.05	0.16	0.00	0.01	0.01	0.01
End Dump Truck	0.03	0.14	0.48	0.00	0.03	0.03	0.02
Water Truck	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Subtotal	0.26	1.08	3.59	0.01	0.20	0.20	0.18

Table A.4.1-Alt 1-116. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 2/Stage 1

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolition							
Wharf Demolition Landside	0.18	0.75	2.52	0.00	0.14	0.14	0.13
Railyard							
Intermodal Yard Construction	-	-	-	-	-	-	-
Container Yard Development							
New Container Yard Utilities	-	-	-	-	-	-	-
New Container Yard Construction - Paving	0.13	0.54	1.84	0.00	0.12	0.12	0.11
New Container Yard Construction - Electrical	0.03	0.12	0.40	0.00	0.03	0.03	0.03
Demo Existing F1 - F4, F6 Wharf							
Wharf Demolition Landside	0.23	0.98	3.28	0.01	0.18	0.18	0.17
Wharf Demolition Marine	0.39	2.08	6.03	0.01	0.31	0.31	0.28
Construct East Basin Retaining Dike							
Rock Placement, Push Off & Tub & Orange Peels	0.34	2.53	7.25	0.05	0.28	0.28	0.26
Slip/Basin Fill & Surcharge East							
Cutter Suction Dredging- Spill Barge (No Booster)	0.12	0.79	2.56	0.05	0.12	0.12	0.11
Cutter Suction Dredging- Land Disposal (No Booster)	0.24	1.06	3.33	0.04	0.20	0.20	0.18
Wick Drains	0.03	0.14	0.47	0.00	0.02	0.02	0.02
Roll Surcharge							
Roll Surcharge	0.26	1.08	3.59	0.01	0.20	0.20	0.18
Other Peak Daily Emissions							
Fugitive Dust	-	-	-	-	-	-	-
Commuter Emissions	-	-	-	-	-	-	-
Dredging Activities							
Clamshell Dredging	0.36	1.85	5.89	0.09	0.32	0.32	0.29
Peak Daily Emissions	1.02	5.05	15.66	0.10			
Mitigated Peak Daily Emissions (1)	1.02	5.05	15.66	0.10			
Conformity De Minimis Thresholds - SCAB	25	100	25	100	NA	70	100

(1) These data represent 90% control of fugitive dust only.

Table A.4.1-Alt 1-117. Activity Data - Dredge and Excavate at Quay Wall - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	84	0
Secondary Engine	500	0.00	1	0	24	0	84	0
Bottom Dump Scow	250	0.05	1	13	24	300	84	25,200
Tug Boat	2,500	0.30	1	750	6	4,500	84	378,000
Secondary Engine	400	0.25	1	100	6	600	84	50,400
Work Tug	750	0.20	1	150	12	1,800	84	151,200
Secondary Engine	150	0.25	1	38	12	450	84	37,800
Crew/Survey Boat	400	0.30	1	120	24	2,880	84	241,920
Secondary Engine	80	0.50	1	40	24	960	84	80,640

Table A.4.1-Alt 1-118. Activity Data - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	4	372	8	2,976	182	541,632
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	182	375,648
Secondary Engine	200	0.50	1	100	8	800	182	145,600
Work Tug	750	0.20	1	150	8	1,200	182	218,400
Secondary Engine	150	0.50	1	75	8	600	182	109,200
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	3	279	8	2,232	182	406,224

Table A.4.1-Alt 1-119. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (1 of 2)

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
LAND EX								
Excavator	428	0.57	1	244	8	1,952	168	327,882
Loader	170	0.68	1	116	8	925	168	155,366
End Dump Truck	310	0.25	4	310	8	2,480	168	416,640
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	168	346,752
Secondary Engine	200	0.50	1	100	8	800	168	134,400
Front End Loader	400	0.68	1	272	8	2,176	168	365,568
Tug Boat	1,200	0.20	1	240	8	1,920	168	322,560
Secondary Engine	150	0.50	1	75	8	600	168	100,800
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	168	1,193,640
Secondary Engine	400	0.50	1	200	6	1,160	168	194,880
Crew/Survey Boat	400	0.30	1	120	8	960	168	161,280
Secondary Engine	80	0.50	1	40	8	320	168	53,760
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	168	193,603
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	168	352,800
Flatbed Truck	230	0.25	1	58	8	460	168	77,280
Welding Machine	26	0.45	1	12	8	94	168	15,725
Generator	13	0.74	1	10	8	77	168	12,929
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	126	65,883
Crane - 200 Ton	335	0.43	1	144	8	1,152	126	145,202
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	126	204,120
Piledriving Hammer	211	0.50	1	106	8	844	126	106,344
Loader-Wheel	300	0.30	1	90	8	720	126	90,720
Jet Pump	33	0.74	1	24	8	195	126	24,615
End Dump Truck	310	0.25	1	78	8	620	126	78,120
Truck-Flatbed	230	0.25	1	58	8	460	126	57,960
Truck-Lowboy	350	0.25	1	88	8	700	126	88,200

Table A.4.1-Alt 1-120. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (2 of 2)

DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	126	145,202
Derrick Barge	380	0.43	1	163	8	1,307	126	164,707
Secondary Engine	195	0.50	1	98	8	780	126	98,280
Piledriving Hammer	211	0.50	1	106	8	844	126	106,344
End Dump Truck	310	0.25	1	78	8	620	126	78,120
Tugboat	1,000	0.50	1	500	8	4,000	126	504,000
Secondary Engine	100	0.50	1	50	8	400	126	50,400
Truck-Flatbed	230	0.25	1	58	8	460	126	57,960
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	126	245,912
Loader-Wheel	180	0.30	1	54	8	432	126	54,432
Hydraulic Crane	152	0.43	1	65	8	523	126	65,883
Crane - 150 Ton	335	0.43	1	144	8	1,152	126	145,202
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	210	109,805
Crane - 150 Ton	335	0.43	1	144	8	1,152	210	242,004
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	210	242,004
Secondary Engine	107	0.50	1	54	8	428	210	89,880
Concrete Pump	210	0.74	1	155	8	1,243	210	261,072
Concrete Trucks	285	0.25	5	321	8	2,565	210	538,650
Sandblaster w/air compressor	50	0.00	1	0	8	0	210	0
Truck-Flatbed	230	0.25	1	58	8	460	210	96,600
Tugboat	1,000	0.20	1	200	8	1,600	210	336,000
Secondary Engine	100	0.40	1	40	8	320	210	67,200
Concrete Saw	35	0.10	1	4	8	28	210	5,880
Truck Crane - 65 ton	365	0.20	1	73	8	584	210	122,640
Boom Truck	350	0.20	1	70	8	560	210	117,600

Table A.4.1-Alt 1-121. Activity Data - Basin Fill and Surcharge West - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CUTTER SUCTION DREDGING- Spill Barge (no booster)								
Cutter Suction Dredge	8,400	0.00	1	0	24	0	74	0
Secondary Engine	4,800	0.00	1	0	24	0	74	0
Work Tug	750	0.25	2	375	12	4,500	74	330,750
Secondary Engine	150	0.50	2	150	12	1,800	74	133,200
Derrick Barge	600	0.10	1	60	24	1,440	74	105,840
Secondary Engine	200	0.50	1	100	24	2,400	74	177,600
Spill Barge	300	0.20	1	60	24	1,440	74	105,840
Secondary Engine	50	0.50	1	25	24	600	74	44,400
Crew/Survey Boat	400	0.30	1	120	24	2,880	74	211,680
Secondary Engine	80	0.50	1	40	24	960	74	71,040
CUTTER SUCTION DREDGING- Land Disposal (no booster)								
Cutter Suction Dredge	8,400	0.00	1	0	24	0	74	0
Secondary Engine	4,800	0.00	1	0	24	0	74	0
Work Tug	750	0.25	2	375	12	4,500	74	330,750
Secondary Engine	150	0.50	2	150	12	1,800	74	133,200
Derrick Barge	600	0.10	1	60	24	1,440	74	105,840
Secondary Engine	200	0.50	1	100	24	2,400	74	177,600
Hydra-crane	130	0.43	1	56	24	1,342	74	98,608
Dozer	285	0.30	3	257	24	6,156	74	452,466
Crew/Survey Boat	400	0.20	1	80	24	1,920	74	141,120
Secondary Engine	80	0.50	1	40	24	960	74	71,040
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	245	251,664

Table A.4.1-Alt 1-122. Activity Data - Settlement Period - POLB Middle Harbor Alt 1 P2/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	182	3,734,640
Dozers	285	0.35	2	200	8	1,596	182	290,472
Loader	170	0.30	3	153	8	1,224	182	222,768
End Dump Truck	310	0.25	6	465	8	3,720	182	677,040
Water Truck	310	0.25	1	78	8	620	182	112,840

Table A.4.1-Alt 1-123. Total Emissions - Dredge and Excavate Quay Wall - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Tug Boat	0.10	0.77	2.07	0.00	0.06	0.06	0.05
Secondary Engine	0.01	0.05	0.16	0.00	0.01	0.01	0.01
Work Tug	0.04	0.31	0.83	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.04	0.34	1.99	0.13	0.08	0.08	0.07
Secondary Engine	0.02	0.21	0.29	0.00	0.03	0.03	0.02
Subtotal	0.23	1.73	5.53	0.13	0.21	0.21	0.19

Table A.4.1-Alt 1-124. Total Emissions - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01
End Dump Truck	0.12	0.50	1.67	0.00	0.09	0.09	0.08
Subtotal	0.23	0.98	3.28	0.01	0.18	0.18	0.17
WHARF DEMOLITION MARINE							
Derrick Barge	0.08	0.55	1.16	0.00	0.06	0.06	0.06
Secondary Engine	0.03	0.12	0.45	0.00	0.02	0.02	0.02
Work Tug	0.06	0.45	1.20	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.10	0.34	0.00	0.03	0.03	0.02
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01
End Dump Truck	0.09	0.38	1.25	0.00	0.07	0.07	0.06
Subtotal	0.40	2.07	6.00	0.01	0.31	0.31	0.28

Table A.4.1-Alt 1-125. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (1 of 2)

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
LAND EX							
Excavator	0.07	0.30	1.01	0.00	0.05	0.05	0.05
Loader	0.03	0.15	0.48	0.00	0.04	0.04	0.03
End Dump Truck	0.09	0.39	1.29	0.00	0.07	0.07	0.06
Subtotal	0.20	0.84	2.78	0.00	0.16	0.16	0.15
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.08	0.51	1.07	0.00	0.06	0.06	0.05
Secondary Engine	0.03	0.11	0.41	0.00	0.02	0.02	0.02
Front End Loader	0.08	0.34	1.13	0.00	0.06	0.06	0.06
Tug Boat	0.09	0.66	1.77	0.00	0.05	0.05	0.05
Secondary Engine	0.02	0.10	0.31	0.00	0.02	0.02	0.02
Tug Boat Rock Transport - Within 3 nm	0.33	2.43	6.54	0.01	0.18	0.18	0.17
Secondary Engine	0.04	0.18	0.60	0.00	0.03	0.03	0.03
Crew/Survey Boat	0.03	0.23	1.33	0.08	0.05	0.05	0.05
Secondary Engine	0.01	0.14	0.20	0.00	0.02	0.02	0.02
Subtotal	0.71	4.69	13.35	0.10	0.50	0.50	0.46
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.04	0.18	0.60	0.00	0.03	0.03	0.03
Vibratory Hammer & Power Pack	0.08	0.33	1.09	0.00	0.06	0.06	0.05
Flatbed Truck	0.02	0.06	0.24	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Generator	0.01	0.02	0.07	0.00	0.01	0.01	0.01
Subtotal	0.16	0.62	2.08	0.00	0.12	0.12	0.11
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Crane - 200 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Drill/Power Pack HPSI	0.05	0.19	0.63	0.00	0.03	0.03	0.03
Piledriving Hammer	0.02	0.09	0.33	0.00	0.02	0.02	0.02
Loader-Wheel	0.02	0.08	0.28	0.00	0.02	0.02	0.01
Jet Pump	0.02	0.04	0.14	0.00	0.01	0.01	0.01
End Dump Truck	0.02	0.07	0.24	0.00	0.01	0.01	0.01
Truck-Flatbed	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Truck-Lowboy	0.02	0.08	0.27	0.00	0.01	0.01	0.01
Subtotal	0.20	0.80	2.72	0.00	0.16	0.16	0.14

Table A.4.1-Alt 1-125. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 1 P2/S2 (2 of 2)

DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Derrick Barge	0.04	0.15	0.51	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.08	0.30	0.00	0.02	0.02	0.01
Piledriving Hammer	0.02	0.09	0.33	0.00	0.02	0.02	0.02
End Dump Truck	0.02	0.07	0.24	0.00	0.01	0.01	0.01
Tugboat	0.14	1.03	2.76	0.00	0.08	0.08	0.07
Secondary Engine	0.01	0.13	0.18	0.00	0.02	0.02	0.02
Truck-Flatbed	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Subtotal	0.29	1.74	4.95	0.01	0.20	0.20	0.19
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.05	0.23	0.76	0.00	0.04	0.04	0.04
Loader-Wheel	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Crane - 150 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Subtotal	0.11	0.47	1.58	0.00	0.09	0.09	0.08
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.02	0.11	0.34	0.00	0.03	0.03	0.02
Crane - 150 Ton	0.05	0.22	0.75	0.00	0.04	0.04	0.04
Crane Barge - 150 ton	0.05	0.22	0.75	0.00	0.04	0.04	0.04
Secondary Engine	0.02	0.23	0.33	0.00	0.03	0.03	0.03
Concrete Pump	0.06	0.22	0.81	0.00	0.04	0.04	0.04
Concrete Trucks	0.12	0.50	1.66	0.00	0.09	0.09	0.08
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.08	0.30	0.00	0.02	0.02	0.01
Tugboat	0.09	0.69	1.84	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.18	0.24	0.00	0.02	0.02	0.02
Concrete Saw	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.03	0.11	0.38	0.00	0.02	0.02	0.02
Boom Truck	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Subtotal	0.19	1.17	3.16	0.00	0.13	0.13	0.12

Table A.4.1-Alt 1-126. Total Emissions - Basin Fill and Surcharge West - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CUTTER SUCTION DREDGING- Spill Barge (no booster)							
Cutter Suction Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Work Tug	0.09	0.67	1.81	0.00	0.05	0.05	0.05
Secondary Engine	0.03	0.13	0.41	0.00	0.03	0.03	0.03
Derrick Barge	0.02	0.16	0.33	0.00	0.02	0.02	0.02
Secondary Engine	0.04	0.15	0.55	0.00	0.03	0.03	0.03
Spill Barge	0.02	0.10	0.33	0.00	0.02	0.02	0.02
Secondary Engine	0.03	0.07	0.24	0.00	0.02	0.02	0.02
Crew/Survey Boat	0.04	0.30	1.74	0.11	0.07	0.07	0.07
Secondary Engine	0.02	0.19	0.26	0.00	0.02	0.02	0.02
Subtotal	0.29	1.76	5.67	0.11	0.26	0.26	0.24
CUTTER SUCTION DREDGING- Land Disposal (no booster)							
Cutter Suction Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Work Tug	0.09	0.67	1.81	0.00	0.05	0.05	0.05
Secondary Engine	0.03	0.13	0.41	0.00	0.03	0.03	0.03
Derrick Barge	0.02	0.16	0.33	0.00	0.02	0.02	0.02
Secondary Engine	0.04	0.15	0.55	0.00	0.03	0.03	0.03
Hydra-crane	0.02	0.09	0.30	0.00	0.02	0.02	0.02
Dozer	0.10	0.42	1.40	0.00	0.07	0.07	0.07
Crew/Survey Boat	0.02	0.20	1.16	0.07	0.05	0.05	0.04
Secondary Engine	0.02	0.19	0.26	0.00	0.02	0.02	0.02
Subtotal	0.34	2.00	6.22	0.08	0.30	0.30	0.28
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.06	0.23	0.78	0.00	0.04	0.04	0.04
Subtotal	0.06	0.23	0.78	0.00	0.04	0.04	0.04

Table A.4.1-Alt 1-127. Total Emissions - Settlement Period - POLB Middle Harbor Alt 1 P2/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.82	3.46	11.53	0.02	0.62	0.62	0.57
Dozers	0.06	0.27	0.90	0.00	0.05	0.05	0.04
Loader	0.05	0.21	0.69	0.00	0.05	0.05	0.05
End Dump Truck	0.15	0.63	2.09	0.00	0.11	0.11	0.10
Water Truck	0.02	0.10	0.35	0.00	0.02	0.02	0.02
Subtotal	1.11	4.67	15.55	0.02	0.85	0.85	0.78

Table A.4.1-Alt 1-128. Total Conformity Related Emissions - POLB Middle Harbor Project Alternative 1 Phase 2/Stage 2

Activity	Pounds per Day						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Construction new Terminal Buildings							
Building Construction	0	0	0	0	0	0	0
Dredge and Excavate Quay Wall							
Clamshell Dredging	0	2	6	0	0	0	0
Demo Existing F8-10 Wharf							
Wharf Demolition Landside	0	1	3	0	0	0	0
Wharf Demolition Marine	0	2	6	0	0	0	0
Construct Wharf, Armor, Fill							
Land Ex	0	1	3	0	0	0	0
Rock Placement, Push Off & Tub & Orange Peels	1	5	13	0	0	0	0
Retaining Bulkhead Construction	0	1	2	0	0	0	0
Drive 24-In Octagonal Piles - Land	0	1	3	0	0	0	0
Drive 24-In Octagonal Piles - Water	0	2	5	0	0	0	0
Drive Piles - Misc Activities	0	0	2	0	0	0	0
Reinforced Concrete Wharf	0	1	3	0	0	0	0
Basin Fill and Surcharge West							
Cutter Suction Dredging- Spill Barge (No Booster)	0	2	6	0	0	0	0
Cutter Suction Dredging- Land Disposal (No Booster)	0	2	6	0	0	0	0
Wick Drains	0	0	1	0	0	0	0
Settlement Period							
Roll Surcharge	1	5	16	0	1	1	1
Other Peak Daily Emissions							
Fugitive Dust	-	-	-	-	-	-	-
Commuter Emissions	0	0	0	0	0	0	0
Dredging Activities							
Clamshell Dredging	1	5	17	0	1	1	1
Peak Daily Emissions	3	14	43	0			
Mitigated Peak Daily Emissions (1)	3	14	43	0			
Conformity De Minimis Thresholds - SCAB	25	100	25	100	NA	70	100

(1) These data represent 90% control of fugitive dust only.

Table A.4.1-Alt 1-129. Activity Data - Remove Surcharge - POLB Middle Harbor Alt 1 P2/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	91	1,867,320
Dozers	285	0.35	2	200	8	1,596	91	145,236
Loader	170	0.30	3	153	8	1,224	91	111,384
End Dump Truck	310	0.25	6	465	8	3,720	91	338,520
Water Truck	310	0.25	1	78	8	620	91	56,420

Table A.4.1-Alt 1-130. Activity Data - CY Development - POLB Middle Harbor Alt 1 P2/S3

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD UTILITIES								
Pipelay	300	0.50	1	150	8	1,200		0
Auger	125	0.50	1	63	8	500		0
Crane	130	0.43	1	56	8	447		0
Grader	215	0.61	3	393	8	3,148		0
End Dump Truck	310	0.25	1	78	8	620		0
Flat Bed Truck	230	0.25	2	115	8	920		0
Concrete Truck	250	1	4	600	8	4,800		0
Front End Loader	400	0.40	2	320	8	2,560		0
Trencher	200	0.20	1	40	8	320		0
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	45	27,060
Grader	215	0.40	1	86	8	688	45	31,111
Roller	151	0.40	3	181	8	1,450	45	65,551
Vibration Roller	154	0.40	3	185	8	1,478	45	66,853
Water Truck	210	0.30	1	63	8	504	45	22,791
Road Sweeper	190	0.40	1	76	8	608	45	27,494
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL								
Flat Bed Truck	230	0.25	1	58	8	460		0
Truck Crane	130	0.20	1	26	8	208		0
Auger	125	0.50	1	63	8	500		0

Table A.4.1-Alt 1-131. Total Emissions - Remove Surcharge- POLB Middle Harbor Alt 1 P2/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.41	1.73	5.76	0.01	0.31	0.31	0.28
Dozers	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Loader	0.02	0.11	0.34	0.00	0.03	0.03	0.02
End Dump Truck	0.07	0.31	1.04	0.00	0.06	0.06	0.05
Water Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Subtotal	0.56	2.34	7.77	0.01	0.43	0.43	0.39

Table A.4.1-Alt 1-132. Total Emissions - CY Development - POLB Middle Harbor Alt 1 P2/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD UTILITIES							
Pipelaying	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auger	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Front End Loader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trencher	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00						
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Grader	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Roller	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Vibration Roller	0.01	0.06	0.21	0.00	0.02	0.02	0.01
Water Truck	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Road Sweeper	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Subtotal	0.05	0.22	0.74	0.00	0.05	0.05	0.05
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL							
Flat Bed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auger	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00						

Table A.4.1-Alt 1-133. Total Conformity Related Emissions - POLB Middle Harbor Alternative 1 Phase 2/Stage 3

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Remove Surcharge							
Roll Surcharge	0.56	2.34	7.77	0.01	0.43	0.43	0.39
CY Development							
New Container Yard Utilities	-	-	-	-	-	-	-
New Container Yard Construction - Paving	0.05	0.22	0.74	0.00	0.05	0.05	0.05
New Container Yard Construction - Electrical	-	-	-	-	-	-	-
Other Peak Daily Emissions							
Fugitive Dust	-	-	-	-	-	-	-
Commuter Emissions	-	-	-	-	-	-	-
Peak Daily Emissions	0.61	2.55	8.52	0.01	-	-	-
Mitigated Peak Daily Emissions	0.61	2.55	8.52	0.01	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	NA	70	100

Table A.4.1-Alt 1-134. Dike Rock Tug boat Usage

11-Mar-09	JGM	Rock Placement Equipment Spread As included in Equipment List									
		HP	LF		Hours/Day	Hp-hrs/day					
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS											
Derrick Barge	600	0.43			8	2,864					
	200	0.50			8						
Front End Loader	400	0.68			8	2,176					
Tug Boat	1,200	0.20			8	2,520					
	150	0.50			8						
Tug Boat	2,500	0.40			8	9,600					
	400	0.50			8						
Crew/Survey Boat	400	0.30			8	1,280					
	80	0.50			8						
							18,440	Total Hp-hrs per day of rock placement			
Rock Placement Equipment Spread with More Detailed Breakdown of Towboat work cycle											
		HP	LF		Hours/Day	Hp-hrs/day					
7	ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS										
	Derrick Barge	600	0.43		8	2,864					2,864
		200	0.50		8						
	Front End Loader	400	0.68		8	2,176					2,176
	Tender Tug Boat	1,200	0.20		8	2,520					2,520
		150	0.50		8						
	Ocean Tow- Tug Boat										
		M/E		Aux							
	0200- 0300 warmup & in harbor transit	2,500	0.20	400	0.50	1	700	% within 3 miles of mainland	% within 3 miles of catalina	% between 3 miles off catalina and 3 miles off mainland	
	0300-0700 tow light barges to Catalina	2,500	0.80	400	0.50	4	8,800	11.5%	11.5%	76.9%	1,015
	0700-1100 standby during loading	2,500	0.00	400	0.50	4	800	0%	100%	0%	0
	1100-1200 make-up tow	2,500	0.20	400	0.50	1	700	0%	100%	0%	0
	1200-1800 tow loaded barges	2,500	0.80	400	0.50	6	13,200	11.5%	11.5%	76.9%	1,523
	1800-1900 place barges on moorings	2,500	0.20	400	0.50	1	700	100%	0%	0%	700
	1900-2000 transit in harbor & secure	2,500	0.20	400	0.50	1	700	100%	0%	0%	700
	Crew/Survey Boat	400	0.30			8	1,280				1,280
		80	0.50			8					
							34,440			13,478	4,038
											16,923
								tow distance - bw to pebbly beach			
								% within 3 mi of mainland			
								% within 3 mi of catalina			
								% between			

Composite load factor for large tug used in transport within 3 nm =	0.49	@ 5.8 hrs	Travel
Composite load factor for large tug used in transport beyond 3 nm =	0.73	@ 8.2 hrs	Travel

Table A.4.1 -Alt 1 -135 Worker Commuting Air Emissions for the POLB Middle Harbor Project Construction Activities.

Project Year	Emissions (pounds per day)							References
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
2007	1.60	26.20	1.80	0.02	3.00	3.00	2.76	(1)
2008	4.90	82.40	5.50	0.10	10.50	10.50	9.66	(1)
2009	2.50	40.00	4.00	0.03	4.90	4.90	4.51	(1)
2010	1.50	25.10	1.60	0.02	3.90	3.90	3.59	(1)
2011	1.00	17.50	1.10	0.01	2.70	2.70	2.48	(1)
2012	1.90	33.20	2.20	0.03	5.20	5.20	4.78	(1)
2013	1.70	28.80	1.90	0.02	4.50	4.50	4.14	(1)
2014	0.40	6.90	0.70	0.01	1.50	1.50	1.38	(1)
2015	0.40	6.90	0.70	0.01	1.50	1.50	1.38	(1)
2016	0.30	4.80	0.50	0.01	1.00	1.00	0.92	(1)

Notes: (1) Calculated with the use of the ARB URBEMIS 2002 8.7 emissions model (2002) and based on

peak daily trips for a given year.

Table A.4.1-Alt 1-136. Air Emission Factors for the POLB Middle Harbor Project Construction Activities. (1 out of 3)

Project Year/Source Type	Fuel Type	Emission Factors (Grams/Horsepower-Hour)							References
		VOC	CO	NOx	SOx	PM	PM10	PM2.5	
Tier 3 or less Standards									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.004	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.004	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.004	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.004	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.004	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.004	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.004	0.13	0.13	0.12	(1)
Year 2007									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	5.00	30.04	67.52	0.04	1.39	1.39	1.28	(2)
On-road Truck - 5 mph (Gms/Mi)	D	2.43	24.99	16.10	0.02	0.66	0.66	0.61	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.81	6.99	9.81	0.02	0.03	0.03	0.03	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.40	4.94	12.73	0.02	0.16	0.16	0.15	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.97	8.79	10.44	0.02	0.09	0.09	0.09	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.58	6.35	12.31	0.02	0.16	0.16	0.15	(4)
Year 2009									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	4.97	29.86	68.08	0.04	1.30	1.30	1.20	(2)
On-road Truck - 5 mph (Gms/Mi)	D	2.08	21.19	13.68	0.02	0.59	0.59	0.55	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.70	5.94	8.33	0.02	0.07	0.07	0.06	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.35	4.19	10.81	0.02	0.15	0.15	0.14	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.84	7.46	8.87	0.02	0.12	0.12	0.11	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.50	5.39	10.46	0.02	0.16	0.16	0.14	(4)
Year 2011									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	4.95	29.68	68.64	0.04	1.21	1.21	1.11	(2)
On-road Truck - 5 mph (Gms/Mi)	D	1.73	17.40	11.27	0.02	0.53	0.53	0.48	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.59	4.89	6.85	0.02	0.11	0.11	0.10	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.30	3.43	8.90	0.02	0.14	0.14	0.13	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.70	6.14	7.29	0.02	0.15	0.15	0.14	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.43	4.42	8.60	0.02	0.15	0.15	0.14	(4)

Table A.4.1-Alt 1-136. Air Emission Factors for the POLB Middle Harbor Project Construction Activities. (2 out of 3)

Year 2013									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	4.92	29.50	69.20	0.04	1.12	1.12	1.03	(2)
On-road Truck - 5 mph (Gms/Mi)	D	1.37	13.60	8.85	0.02	0.46	0.46	0.42	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.48	3.83	5.37	0.02	0.15	0.15	0.14	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.24	2.68	6.98	0.02	0.13	0.13	0.12	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.57	4.81	5.72	0.02	0.18	0.18	0.17	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.35	3.45	6.75	0.02	0.15	0.15	0.14	(4)
Year 2014									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	4.90	29.41	69.48	0.04	1.08	1.08	0.99	(2)
On-road Truck - 5 mph (Gms/Mi)	D	1.20	11.70	7.64	0.02	0.42	0.42	0.39	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.43	3.31	4.63	0.02	0.17	0.17	0.16	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.22	2.30	6.02	0.02	0.13	0.13	0.12	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.50	4.15	4.93	0.02	0.20	0.20	0.18	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.31	2.97	5.82	0.02	0.15	0.15	0.14	(4)
Year 2015									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	4.89	29.32	69.76	0.04	1.03	1.03	0.95	(2)
On-road Truck - 5 mph (Gms/Mi)	D	1.02	9.80	6.43	0.02	0.39	0.39	0.36	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.37	2.78	3.89	0.02	0.19	0.19	0.17	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.19	1.92	5.06	0.02	0.12	0.12	0.11	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.44	3.48	4.14	0.02	0.21	0.21	0.19	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.27	2.49	4.89	0.02	0.15	0.15	0.14	(4)
Year 2016									
Off-Road Equipment - 25-50 Hp	D	0.60	1.53	5.00	0.00	0.45	0.45	0.41	(1)
Off-Road Equipment - 51-120 Hp	D	0.20	2.37	3.30	0.00	0.30	0.30	0.28	(1)
Off-Road Equipment - 121-175 Hp	D	0.20	0.87	2.80	0.00	0.22	0.22	0.20	(1)
Off-Road Equipment - 176-250 Hp	D	0.20	0.75	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 251-500 Hp	D	0.20	0.84	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - 501-750 Hp	D	0.20	1.33	2.80	0.00	0.15	0.15	0.14	(1)
Off-Road Equipment - >750 Hp	D	0.30	0.76	4.50	0.00	0.13	0.13	0.12	(1)
On-road Truck - Idle (Gms/Hr)	D	4.88	29.23	70.04	0.04	0.99	0.99	0.91	(2)
On-road Truck - 5 mph (Gms/Mi)	D	0.84	7.90	5.22	0.02	0.36	0.36	0.33	(2)
On-road Truck - 25 mph (Gms/Mi)	D	0.32	2.25	3.15	0.02	0.21	0.21	0.19	(2)
On-road Truck - 55 mph (Gms/Mi)	D	0.16	1.54	4.10	0.02	0.12	0.12	0.11	(2)
Dredge Materials Haul Truck - Composite (Gms/Mi)	D	0.37	2.82	3.36	0.02	0.22	0.22	0.21	(3)
Other On-Road Trucks - Composite (Gms/Mi)	D	0.23	2.00	3.97	0.02	0.15	0.15	0.13	(4)

Table A.4.1-Alt 1-136. Air Emission Factors for the POLB Middle Harbor Project Construction Activities. (3 out of 3)

All Years								
Tugboat (Gm/Hp-Hr)	D	0.25	1.85	9.73	0.01	0.32	0.32	0.30
Fugitive Dust (Lbs/acre-day)	---	---	---	---	---	27.50	13.75	1.40
Building Demolition (Lbs/1000 cf)	---	---	---	---	---	0.84	0.42	0.04
Small Harbor Craft	D	0.16	1.27	7.46	0.47	0.30	0.30	0.28

Notes: (1) Equal to the cleanest of EPA Tier 2 or 3 nonroad emission standards. For example, since there are no Tier 3 standards for PM, data presented =

Tier 2 standards. Additionally, since there are no Tier 2/3 standards for CO, data presented derived from nonroad certification data. Source:

Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling -- Compression-Ignition (USEPA 2004).

(2) Heavy duty diesel truck running emission factors developed from EMFAC2007 (ARB 2006). Units in grams/mile calculated for each future project year.

(3) Composite factors based on a round trip of 90% at 25 mph and 10% at 5 mph. Units in grams/mile. Although not shown in these calculations, emissions from 5 minutes of idling mode included for each truck round trip.

(4) For on-road trucks other than dredge material haul trucks, composite factor based on a round trip of 75% at 55 mph, 20% at 25 mph, and 5% at 5 mph. Units in grams/mile. Although not shown in these calculations, emissions from 5 minutes of idling mode included for each truck round trip.

(5) Data obtained from Table A.1.2-CB-1 of this EIR/S, then divided by 1.34 to convert to units of Gm/Hp-Hr. Equal to average of Ports assist tug fleet in year 2010.

(6) Units in lbs/acre-day from section 11.2.3 of AP-42 (EPA 1995). Emissions reduced by 75% from uncontrolled levels to represent compliance with SCAQMD Rule 403 - Fugitive Dust.

(7) CEQA Air Quality Handbook, Table A9-9-H (SCAQMD 1993). Units in lbs/1000 cubic feet (cf) of demolished building.

(8) EPA (2006)

Table A.4.1-Alt 1-137. Additional Air Emission Factors for the POLB Middle Harbor Project Construction Activities.

Project Year/Source Type	Emission Factors (Gm/Hp-Hr)						
	ROG	CO	NOx	SOx	DPM	PM10	PM2.5
Tugboats - Diesel Main Engines Year 2005	0.25	1.85	10.16	0.05	0.34	0.34	0.32
Tugboats - Diesel Main Engines Year 2006	0.25	1.85	10.07	0.05	0.34	0.34	0.32
Tugboats - Diesel Main Engines Year 2007	0.25	1.85	9.99	0.01	0.33	0.33	0.31
Tugboats - Diesel Main Engines Year 2008	0.25	1.85	9.90	0.01	0.33	0.33	0.31
Tugboats - Diesel Main Engines Year 2009	0.25	1.85	9.81	0.01	0.33	0.33	0.31
Tugboats - Diesel Main Engines Year 2010	0.20	1.87	5.07	0.00	0.15	0.15	0.14
Tugboats - Diesel Main Engines Year 2011	0.20	1.87	5.07	0.00	0.15	0.15	0.14
Tugboats - Diesel Main Engines Year 2012	0.20	1.87	5.07	0.00	0.15	0.15	0.14
Tugboats - Diesel Main Engines Year 2013	0.20	1.87	5.07	0.00	0.15	0.15	0.14
Tugboats - Diesel Main Engines Year 2014	0.25	1.85	4.97	0.01	0.14	0.14	0.13
Tugboats - Diesel Main Engines Year 2015	0.25	1.85	3.78	0.01	0.09	0.09	0.09
Tugboats - Diesel Main Engines Year 2016	0.25	1.85	3.69	0.01	0.09	0.09	0.08
Tugboats - Diesel Main Engines Year 2017	0.25	1.85	3.59	0.01	0.09	0.09	0.08
Tugboats - Diesel Main Engines Year 2018	0.25	1.85	3.50	0.01	0.08	0.08	0.08
Tugboats - Diesel Main Engines Year 2019	0.25	1.85	3.41	0.01	0.08	0.08	0.07
Tugboats - Diesel Main Engines Year 2020	0.25	1.85	3.32	0.01	0.08	0.08	0.07
Tugboats - Diesel Main Engines Year 2025	0.25	1.85	3.32	0.01	0.08	0.08	0.07

~Tier 2 levels

Table A.4.1-Alt1-138. Total Annual Conformity-Related Construction Emissions from Construction Equipment – Federal Action Component - Alternative 1

Year	<i>Tons</i>					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.12	0.55	1.67	0.00	0.29	0.13
2010	1.77	8.01	24.93	0.17	3.67	1.77
2011	1.00	4.26	13.94	0.39	1.83	0.93
2012	0.83	2.17	5.97	0.45	4.86	1.59
2013	0.71	1.91	5.21	0.36	4.48	1.43
2014	0.76	3.15	9.91	0.01	3.83	1.23
2015	0.92	3.77	11.60	0.12	4.05	1.39
2016	0.06	0.26	0.78	0.00	0.13	0.06
2017	0.70	1.98	5.65	0.32	1.26	0.72
2018	1.74	7.41	24.14	0.04	11.92	3.44
2019	0.51	2.15	7.14	0.01	8.08	1.97
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A.4.1-Alt1-139. Total Annual Conformity-Related Construction Emissions from Trucks – Federal Action Component - Alternative 1

Year	<i>Tons</i>					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.05	0.22	0.74	0.00	0.04	0.04
2010	0.59	2.44	8.27	0.11	0.44	0.41
2011	0.23	0.96	3.23	0.07	0.17	0.16
2012	0.24	0.48	1.26	0.16	0.22	0.22
2013	0.31	0.74	2.12	0.18	0.28	0.27
2014	0.16	0.63	2.19	0.00	0.12	0.11
2015	0.39	1.55	5.18	0.03	0.30	0.28
2016	0.04	0.17	0.57	0.00	0.03	0.03
2017	0.33	0.59	1.42	0.25	0.31	0.30
2018	0.33	1.35	4.56	0.01	0.24	0.22
2019	0.10	0.41	1.37	0.00	0.07	0.07
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A.4.1-Alt1-140. Total Annual Conformity-Related Construction Emissions from Tug Boat Usage Within 3nm of the Coast – Federal Action Component - Alternative 1

Year	<i>Tons</i>					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.05	0.38	1.09	0.01	0.04	0.04
2010	1.43	12.43	36.74	0.53	1.34	1.25
2011	0.24	2.06	5.93	0.06	0.21	0.19
2012	0.27	1.37	4.03	0.19	0.26	0.25
2013	0.32	2.34	6.77	0.12	0.28	0.27
2014	0.55	4.82	14.15	0.20	0.52	0.49
2015	0.16	1.39	3.67	0.01	0.14	0.13
2016	0.19	1.42	4.50	0.10	0.17	0.16
2017	0.50	3.14	8.89	0.20	0.40	0.38
2018	0.75	5.55	16.03	0.21	0.58	0.54
2019	-	-	-	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A.4.1-Alt1-141. Total Annual Conformity-Related Construction Emissions – Federal Action Component - Alternative 1

Year	<i>Tons</i>					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.22	1.15	3.50	0.01	0.37	0.20
2010	3.79	22.88	69.95	0.81	5.44	3.43
2011	1.47	7.29	23.11	0.51	2.21	1.29
2012	1.34	4.02	11.26	0.80	5.35	2.06
2013	1.34	4.98	14.10	0.66	5.04	1.97
2014	1.46	8.60	26.25	0.22	4.47	1.83
2015	1.48	6.71	20.45	0.16	4.49	1.80
2016	0.28	1.86	5.85	0.10	0.33	0.24
2017	1.52	5.71	15.96	0.76	1.97	1.40
2018	2.82	14.31	44.72	0.25	12.74	4.21
2019	0.61	2.55	8.52	0.01	8.16	2.04
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Activity	2015						2016						2016					
	Oct		Nov		Dec		Jan		Feb		Mar		Apr		May		Jun	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Ph 1-3 Demolish Existing Facilities																		
Wharf Demolition Landside																		
Wharf Demolition Marine																		
Sheet Pile Bulkhead Demolition																		
Construct New Bulkhead																		
Retaining Bulkhead Construction																		
Excavation Fronting E26 and Dispose Slip 1																		
Clamshell Dredging																		
Construct New Armor Slope																		
Rock Placement, Push Off & Tub & Orange Peels																		
Wharf Construction																		
Drive 24-In Octagonal Piles - Land																		
Drive 24-In Octagonal Piles - Water																		
Drive Piles - Misc Activities																		
Reinforced Concrete Wharf																		
Construct E27 Bulkhead																		
Retaining Bulkhead Construction																		
CY Development																		
Vibratory Hammer & Power Pack						0.00												
Flatbed Truck						0.12												
Welding Machine						0.00												
Hydraulic Dredge to -55ft																		
Ph 1-3 Clamshell Dredging																		
Ph 1-4 Seaside Railyard Area Redevelopment																		
New Container Yard Utilities																		
New Container Yard Construction - Paving																		
Ph 1-4 New Container Yard Construction - Electrical																		
Ph 1-5 Construction																		
New Container Yard Utilities							0.00											
New Container Yard Construction - Paving							0.00											
Ph 1-5 New Container Yard Construction - Electrical							0.00											
Ph 2-1 Demolition																		
Wharf Demolition Landside																		
Railyard																		
Intermodal Yard Construction																		
Container Yard Development (F1 - F4)																		
New Container Yard Utilities																		
New Container Yard Construction - Paving																		
New Container Yard Construction - Electrical																		
Demo Existing F1-4, F6 Wharf																		
Wharf Demolition Landside							2.73				0.55							
Wharf Demolition Marine							5.02				1.00							

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions - Federal Action Component of POLB Middle Harbor Alternative 1

Activity	2010		2010		2010		2010		2010		2010		2010		2011		2011		2011		
	Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb		Mar				
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	
Construct East Basin Retaining Dike																					
Rock Placement, Push Off & Tub & Orange Peels																					
Slip/Basin Fill & Surcharge East																					
Cutter Suction Dredging - Spill Barge (No Booster)																					
Cutter Suction Dredging - Land Disposal (No Booster)																					
Wick Drains																					
Roll Surcharge																					
Ph 2-1	Roll Surcharge																				
Ph 2-2	Construction - New Terminal Buildings																				
	Building Construction																				
	Dredge and Excavate at Quay Wall																				
	Clamshell Dredging																				
	Demo Existing F8-10 Wharf																				
	Wharf Demolition Landside																				
	Wharf Demolition Marine																				
	Construct Wharf, Armor, Fill																				
	Land Ex																				
	Rock Placement, Push Off & Tub & Orange Peels																				
	Retaining Bulkhead Construction																				
	Drive 24-In Octagonal Piles - Land																				
	Drive 24-In Octagonal Piles - Water																				
	Drive Piles - Misc Activities																				
	Reinforced Concrete Wharf																				
	Basin Fill and Surcharge West																				
	Cutter Suction Dredging - Spill Barge (No Booster)																				
	Cutter Suction Dredging - Land Disposal (No Booster)																				
	Wick Drains																				
Ph 2-2	Settlement Period																				
Ph 2-2	Roll Surcharge																				
Ph 2-3	Remove Surcharge																				
Ph 2-3	Roll Surcharge																				
	CY Development																				
	New Container Yard Utilities																				
	New Container Yard Construction - Paving																				
Ph 2-3	New Container Yard Construction - Electrical																				
	Activity Total Tons	0.00	0.00	4.83	0.00	5.58	16.77	5.37	2.49	0.03	0.10	1.20	14.42	0.00	2.62	1.05	3.45	0.23	0.00		
	Yearly Total (Tons)													69.95							

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions - Federal Action Component of POLB Middle Harbor Alternative 1

Activity	2013		2013		2013		2013		2013		2013		2014		2014		2014	
	Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb		Mar	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd										
Construct East Basin Retaining Dike																		
Rock Placement, Push Off & Tub & Orange Peels							7.25											
Slip/Basin Fill & Surcharge East																		
Cutter Suction Dredging - Spill Barge (No Booster)													0.48					
Cutter Suction Dredging - Land Disposal (No Booster)													0.62					
Wick Drains													0.09					
Roll Surcharge																		
Ph 2-1 Roll Surcharge																		
Ph 2-2 Construction - New Terminal Buildings																		
Building Construction																		
Dredge and Excavate at Quay Wall																		
Clamshell Dredging																		
Demo Existing F8-10 Wharf																		
Wharf Demolition Landside																		
Wharf Demolition Marine																		
Construct Wharf, Armor, Fill																		
Land Ex																		
Rock Placement, Push Off & Tub & Orange Peels																		
Retaining Bulkhead Construction																		
Drive 24-In Octagonal Piles - Land																		
Drive 24-In Octagonal Piles - Water																		
Drive Piles - Misc Activities																		
Reinforced Concrete Wharf																		
Basin Fill and Surcharge West																		
Cutter Suction Dredging - Spill Barge (No Booster)																		
Cutter Suction Dredging - Land Disposal (No Booster)																		
Wick Drains																		
Settlement Period																		
Ph 2-2 Roll Surcharge																		
Ph 2-3 Remove Surcharge																		
Roll Surcharge																		
CY Development																		
New Container Yard Utilities																		
New Container Yard Construction - Paving																		
New Container Yard Construction - Electrical																		
Activity Total Tons	0.00	0.00	0.00	0.00	0.58	7.25	2.52	0.00	0.00	0.00	0.15	1.58	0.00	0.33	0.00	0.00	0.00	0.00
Yearly Total (Tons)													14.10					

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions - Federal Action Component of POLB Middle Harbor Alternative 1

Activity	2016		2016		2016		2016		2016		2016		2017		2017		2017		
	Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb		Mar		
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	
Construct East Basin Retaining Dike																			
Rock Placement, Push Off & Tub & Orange Peels																			
Slip/Basin Fill & Surcharge East																			
Cutter Suction Dredging - Spill Barge (No Booster)																			
Cutter Suction Dredging - Land Disposal (No Booster)																			
Wick Drains																			
Roll Surcharge																			
Ph 2-1	Roll Surcharge																		
Ph 2-2	Construction - New Terminal Buildings																		
	Building Construction												0.00						
	Dredge and Excavate at Quay Wall																		
	Clamshell Dredging												4.30		1.23				
	Demo Existing F8-10 Wharf																		
	Wharf Demolition Landside																		
	Wharf Demolition Marine																		
	Construct Wharf, Armor, Fill																		
	Land Ex																		
	Rock Placement, Push Off & Tub & Orange Peels																		
	Retaining Bulkhead Construction																		
	Drive 24-In Octagonal Piles - Land																		
	Drive 24-In Octagonal Piles - Water																		
	Drive Piles - Misc Activities																		
	Reinforced Concrete Wharf																		
	Basin Fill and Surcharge West																		
	Cutter Suction Dredging - Spill Barge (No Booster)																		
	Cutter Suction Dredging - Land Disposal (No Booster)																		
	Wick Drains																		
	Settlement Period																		
Ph 2-2	Roll Surcharge																		
Ph 2-3	Remove Surcharge																		
	Roll Surcharge																		
	CY Development																		
	New Container Yard Utilities																		
	New Container Yard Construction - Paving																		
Ph 2-3	New Container Yard Construction - Electrical																		
	Activity Total Tons	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.30	0.00	1.23	0.00	0.00	0.00	0.00
	Yearly Total (Tons)												5.85						

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Table A-4-Alt1-142 Total Annual NOx Emissions – Federal Action Component of POLB Middle Harbor Alternative 1

Alternative 2 Conformity Emission Calculations

This page intentionally left blank.

Table A.4.1-Alt 2-1. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-2. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-3. Activity Data - Excavation Fronting E24 - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-4. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-5. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-6. Activity Data - Paving - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-7. Activity Data - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-8. Activity Data - Fill within Dike - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-9. Activity Data - Remaining Dike Lifts - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-10. Activity Data - Remaining Fill Lifts - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-11. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-12. Activity Data - Construct South Mooring Dolphin - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-13. Activity Data - Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-14. Activity Data - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-15. Activity Data - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-16. Activity Data - Paving - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-17. Activity Data - Lighting, Fence, Striping, Crane Power - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-18. Activity Data - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-19. Activity Data - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-20. Activity Data - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-21. Activity Data - Remove Cellular Sheetpile - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-22. Activity Data - Rock Revetment - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-23. Activity Data - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-24. Activity Data - Ground Improvements Pier D - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-25. Activity Data - Demo E12-13 Wharf - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-26. Activity Data - Lift #1 (~ -30) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-27. Activity Data - Lift #2 (~ -15) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-28. Activity Data - Lift #3 (~ 0) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-29. Activity Data - Lift #4 (~ +15) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-30. Activity Data - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-31. Activity Data - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-32. Activity Data - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-33. Activity Data - Utility Construction - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-34. Activity Data - Remove Surcharge - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-35. Activity Data - Container Yard Development - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-36. Total Construction Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-37. Total Construction Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-38. Total Construction Emissions - Excavation Fronting E24 - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-39. Total Construction Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-40. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-41. Total Construction Emissions - Paving - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-42. Total Construction Emissions - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-43. Total Construction Emissions - Fill Within Dike - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-44. Total Construction Emissions - Remaining Dike Lifts - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-45. Total Construction Emissions - Remaining Fill Lifts - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-46. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-47. Total Construction Emissions - Construct South Mooring Dolphin - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-48. Total Construction Emissions - Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-49. Total Construction Emissions - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-50. Daily Construction Emissions - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-51. Total Construction Emissions - Paving - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-52. Total Construction Emissions - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-53. Total Construction Emissions - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-54. Total Construction Emissions - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-55. Total Construction Emissions - Remove Cellular Sheetpile - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-56. Total Construction Emissions - Rock Revetment - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-57. Total Construction Emissions - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-58. Total Construction Emissions - Ground Improvements Pier D - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-59. Total Construction Emissions - Demo - E12-13 Wharf - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-60. Total Construction Emissions - Lift #1 (~ -30) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-61. Total Construction Emissions - Lift #2 (~ -15) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-62. Total Construction Emissions - Lift #3 (~ 0) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-63. Total Construction Emissions - Lift #4 (~ +15) - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-64. Total Construction Emissions - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-65. Total Construction Emissions - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-66. Total Construction Emissions - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-67. Total Construction Emissions - 4th Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-68. Total Construction Emissions - Remove Surcharge - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-69. Total Construction Emissions - Container Yard Development - POLB Middle Harbor Alt 2 P1/S1
Table A.4.1-Alt 2-70. Total Conformity-Related Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 1 (1 of 3)
Table A.4.1-Alt 2-70. Total Conformity-Related Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 1 (2 of 3)
Table A.4.1-Alt 2-70. Total Conformity-Related Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 1 (3 of 3)
Table A.4.1-Alt 2-71. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S2

Table A.4.1-Alt 2-72. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-73. Activity Data - Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-74. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-75. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-76. Activity Data - CY Development - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-77. Activity Data - Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-78. Total Construction Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-79. Total Construction Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-80. Total Construction Emissions -Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-81. Total Construction Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-82. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-83. Total Construction Emissions - DCY Development - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-84. Total Construction Emissions - Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S2
Table A.4.1-Alt 2-85. Total Construction Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 2
Table A.4.1-Alt 2-86. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-87. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-88. Activity Data - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-89. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-90. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-91. Activity Data - Construct E27 Bulkhead - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-92. Activity Data - CY Development - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-93. Activity Data - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-94. Total Construction Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-95. Total Construction Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-96. Total Construction Emissions - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-97. Total Construction Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-98. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-99. Total Construction Emissions - Construct E27 Bulkhead - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-100. Total Construction Emissions - CY Development - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-101. Total Construction Emissions - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 2 P1/S3
Table A.4.1-Alt 2-102. Total Emissions - POLB Middle Harbor Project Alternative 1 Phase 1/Stage 3
Table A.4.1-Alt 2-103. Activity Data - Demo Existing F1-4, F6 Wharf - POLB Middle Harbor Alt 2 P1/S6a
Table A.4.1-Alt 2-104. Activity Data - Roll Surcharge - POLB Middle Harbor Alt 2 P1/S6a
Table A.4.1-Alt 2-105. Daily Emissions - Demo Existing F1-4, F6 Wharf - POLB Middle Harbor Alt 2 P1/S6a
Table A.4.1-Alt 2-106. Daily Emissions - Roll Surcharge - POLB Middle Harbor Alt 2 P1/S6a
Table A.4.1-Alt 2-107. Daily Emissions - POLB Middle Harbor Project - Alternative 2 Phase 1/Stage 6a
Table A.4.1-Alt 2-108. Activity Data - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 2 P1/S6a
Table A.4.1-Alt 2-109. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (1 of 2)
Table A.4.1-Alt 2-110. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (2 of 2)
Table A.4.1-Alt 2-111. Total Emissions - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 2 P1/S6a
Table A.4.1-Alt 2-112. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (1 of 2)
Table A.4.1-Alt 2-112. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (2 of 2)
Table A.4.1-Alt 2-113. Total Emissions - POLB Middle Harbor Alternative 2 Phase1/Stage 6b
Table A.4.1-Alt 2-114. Annual Conformity-Related Construction Emissions from Construction Equipment – POLB Middle Harbor Alternative 2
Table A.4.1-Alt 2-115. Annual Conformity-Related Construction Emissions from Trucks – POLB Middle Harbor Alternative 2
Table A.4.1-Alt 2-116. Annual Conformity-Related Construction Emissions from Tug Boat Usage Within 3nm of the Coast – POLB Middle Harbor Alternative 2
Table A.4.1-Alt 2-117. Total Annual Conformity-Related Construction Emissions – Federal Action Portion of POLB Middle Harbor Alternative 2
Table A.4.1-Alt 2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A.4.1-Alt 2-1. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	82	36,670
Excavator	428	0.57	1	244	8	1,952	82	160,038
Flatbed Truck	230	0.25	1	58	8	460	82	37,720
End Dump Truck	310	0.30	4	372	8	2,976	82	244,032
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	82	169,042
Secondary Engine	200	0.50	1	100	8	800	82	65,600
Work Tug	750	0.20	1	150	8	1,200	82	98,280
Secondary Engine	150	0.50	1	75	8	600	82	49,200
Hydra-Crane	130	0.43	1	56	8	447	82	36,626
Excavator	428	0.57	1	244	8	1,952	82	159,843
Flatbed Truck	230	0.25	1	58	8	460	82	37,674
End Dump Truck	310	0.30	3	279	8	2,232	82	182,801
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	82	94,382
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	82	171,990
Excavator	428	0.57	1	244	8	1,952	82	159,843
Flatbed Truck	230	0.25	1	58	8	460	82	37,674
Welding Machine	26	0.50	1	13	8	104	82	8,518
Generator	13	0.74	1	10	8	77	82	6,303

Table A.4.1-Alt 2-2. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	15	17,286
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	15	31,500
Flatbed Truck	230	0.25	1	58	8	460	15	6,900
Welding Machine	26	0.45	1	12	8	94	15	1,404
Generator	13	0.74	1	10	8	77	15	1,154

Table A.4.1-Alt 2-3. Activity Data - Excavation Fronting E24 - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	70	0
Secondary Engine	500	0.00	1	0	24	0	70	0
Bottom Dump Scow	250	0.05	1	13	24	300	70	21,000
Tug Boat	2,500	0.30	1	750	6	4,500	70	315,000
Secondary Engine	400	0.25	1	100	6	600	70	42,000
Work Tug	750	0.20	1	150	12	1,800	70	126,000
Secondary Engine	150	0.25	1	38	12	450	70	31,500
Crew/Survey Boat	400	0.30	1	120	24	2,880	70	201,600
Secondary Engine	80	0.50	1	40	24	960	70	67,200
LAND EX								
Excavator	428	0.57	1	244	8	1,952	70	136,618
Loader	170	0.68	1	116	8	925	70	64,736
End Dump Truck	310	0.25	4	310	8	2,480	70	173,600

Table A.4.1-Alt 2-4. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	50	103,200
Secondary Engine	200	0.50	1	100	8	800	50	40,000
Front End Loader	400	0.68	1	272	8	2,176	50	108,800
Tug Boat	1,200	0.20	1	240	8	1,920	50	96,000
Secondary Engine	150	0.50	1	75	8	600	50	30,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.20	1	500	4	2,000	50	100,000
Secondary Engine	400	0.50	1	200	4	800	50	40,000
Crew/Survey Boat	400	0.30	1	120	8	960	50	48,000
Secondary Engine	80	0.50	1	40	8	320	50	16,000

Table A.4.1-Alt 2-5. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	39	20,598
Crane - 200 Ton	335	0.43	1	144	8	1,152	39	45,398
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	39	63,818
Piledriving Hammer	211	0.50	1	106	8	844	39	33,248
Loader-Wheel	300	0.30	1	90	8	720	39	28,364
Jet Pump	33	0.74	1	24	8	195	39	7,696
End Dump Truck	310	0.25	1	78	8	620	39	24,180
Truck-Flatbed	230	0.25	1	58	8	460	39	17,940
Truck-Lowboy	350	0.25	1	88	8	700	39	27,300
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	45	52,018
Derrick Barge	380	0.43	1	163	8	1,307	45	59,006
Secondary Engine	195	0.50	1	98	8	780	45	35,100
Piledriving Hammer	211	0.50	1	106	8	844	45	38,097
End Dump Truck	310	0.25	1	78	8	620	45	27,900
Tugboat	1,000	0.50	1	500	8	4,000	45	180,556
Secondary Engine	100	0.50	1	50	8	400	45	18,000
Truck-Flatbed	230	0.25	1	58	8	460	45	20,700
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	175	341,544
Loader-Wheel	180	0.30	1	54	8	432	175	75,600
Hydraulic Crane	152	0.43	1	65	8	523	175	91,504
Crane - 150 Ton	335	0.43	1	144	8	1,152	175	201,670
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	175	91,504
Crane - 150 Ton	335	0.43	1	144	8	1,152	175	201,670
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	175	201,670
Secondary Engine	107	0.50	1	54	8	428	175	74,900
Concrete Pump	210	0.74	1	155	8	1,243	175	217,560
Concrete Trucks	285	0.25	4.5	321	8	2,565	175	448,875
Sandblaster w/air compressor	50	0.00	1	0	8	0	175	0
Truck-Flatbed	230	0.25	1	58	8	460	175	80,500
Tugboat	1,000	0.20	1	200	8	1,600	175	280,000
Secondary Engine	100	0.40	1	40	8	320	175	56,000
Concrete Saw	35	0.10	1	4	8	28	175	4,900
Truck Crane - 65 ton	365	0.20	1	73	8	584	175	102,200
Boom Truck	350	0.20	1	70	8	560	175	98,000
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	88	100,835
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	88	183,750
Flatbed Truck	230	0.25	1	58	8	460	88	40,250
Welding Machine	26	0.45	1	12	8	94	88	8,190
Generator	13	0.74	1	10	8	77	88	6,734

Table A.4.1-Alt 2-6. Activity Data - Paving - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	6	3,471
Grader	215	0.40	1	86	8	688	6	3,990
Roller	151	0.40	3	181	8	1,450	6	8,408
Vibration Roller	154	0.40	3	185	8	1,478	6	8,575
Water Truck	210	0.30	1	63	8	504	6	2,923
Road Sweeper	190	0.40	1	76	8	608	6	3,526

Table A.4.1-Alt 2-7. Activity Data - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	60	123,840
Secondary Engine	200	0.50	1	100	8	800	60	48,000
Front End Loader	400	0.68	1	272	8	2,176	60	130,560
Tug Boat	1,200	0.20	1	240	8	1,920	60	115,200
Secondary Engine	150	0.50	1	75	8	600	60	36,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	60	426,300
Secondary Engine	400	0.50	1	200	6	1,160	60	69,600
Crew/Survey Boat	400	0.30	1	120	8	960	60	57,600
Secondary Engine	80	0.50	1	40	8	320	60	19,200

Table A.4.1-Alt 2-8. Activity Data - Fill within Dike - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	18	0
Secondary Engine	500	0.00	1	0	24	0	18	0
Bottom Dump Scow	250	0.05	1	13	24	300	18	5,400
Tug Boat	2,500	0.30	1	750	6	4,500	18	81,000
Secondary Engine	400	0.25	1	100	6	600	18	10,800
Work Tug	750	0.20	1	150	12	1,800	18	32,400
Secondary Engine	150	0.25	1	38	12	450	18	8,100
Crew/Survey Boat	400	0.30	1	120	24	2,880	18	51,840
Secondary Engine	80	0.50	1	40	24	960	18	17,280

Table A.4.1-Alt 2-9. Activity Data - Remaining Dike Lifts - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	60	123,840
Secondary Engine	200	0.50	1	100	8	800	60	48,000
Front End Loader	400	0.68	1	272	8	2,176	60	130,560
Tug Boat	1,200	0.20	1	240	8	1,920	60	115,200
Secondary Engine	150	0.50	1	75	8	600	60	36,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	60	426,300
Secondary Engine	400	0.50	1	200	6	1,160	60	69,600
Crew/Survey Boat	400	0.30	1	120	8	960	60	57,600
Secondary Engine	80	0.50	1	40	8	320	60	19,200

Table A.4.1-Alt 2-10. Activity Data - Remaining Fill Lifts - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	60	0
Secondary Engine	500	0.00	1	0	24	0	60	0
Bottom Dump Scow	250	0.05	1	13	24	300	60	18,000
Tug Boat	2,500	0.30	1	750	6	4,500	60	270,000
Secondary Engine	400	0.25	1	100	6	600	60	36,000
Work Tug	750	0.20	1	150	12	1,800	60	108,000
Secondary Engine	150	0.25	1	38	12	450	60	27,000
Crew/Survey Boat	400	0.30	1	120	24	2,880	60	172,800
Secondary Engine	80	0.50	1	40	24	960	60	57,600

Table A.4.1-Alt 2-11. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	33	17,429
Crane - 200 Ton	335	0.43	1	144	8	1,152	33	38,413
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	33	54,000
Piledriving Hammer	211	0.50	1	106	8	844	33	28,133
Loader-Wheel	300	0.30	1	90	8	720	33	24,000
Jet Pump	33	0.74	1	24	8	195	33	6,512
End Dump Truck	310	0.25	1	78	8	620	33	20,460
Truck-Flatbed	230	0.25	1	58	8	460	33	15,180
Truck-Lowboy	350	0.25	1	88	8	700	33	23,100
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	38	44,015
Derrick Barge	380	0.43	1	163	8	1,307	38	49,928
Secondary Engine	195	0.50	1	98	8	780	38	29,640
Piledriving Hammer	211	0.50	1	106	8	844	38	32,236
End Dump Truck	310	0.25	1	78	8	620	38	23,560
Tugboat	1,000	0.50	1	500	8	4,000	38	152,778
Secondary Engine	100	0.50	1	50	8	400	38	15,200
Truck-Flatbed	230	0.25	1	58	8	460	38	17,480
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	126	245,912
Loader-Wheel	180	0.30	1	54	8	432	126	54,432
Hydraulic Crane	152	0.43	1	65	8	523	126	65,883
Crane - 150 Ton	335	0.43	1	144	8	1,152	126	145,202
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	126	65,883
Crane - 150 Ton	335	0.43	1	144	8	1,152	126	145,202
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	126	145,202
Secondary Engine	107	0.50	1	54	8	428	126	53,928
Concrete Pump	210	0.74	1	155	8	1,243	126	156,643
Concrete Trucks	285	0.25	5	321	8	2,565	126	323,190
Sandblaster w/air compressor	50	0.00	1	0	8	0	126	0
Truck-Flatbed	230	0.25	1	58	8	460	126	57,960
Tugboat	1,000	0.20	1	200	8	1,600	126	201,600
Secondary Engine	100	0.40	1	40	8	320	126	40,320
Concrete Saw	35	0.10	1	4	8	28	126	3,528
Truck Crane - 65 ton	365	0.20	1	73	8	584	126	73,584
Boom Truck	350	0.20	1	70	8	560	126	70,560
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	38	43,561
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	38	79,380
Flatbed Truck	230	0.25	1	58	8	460	38	17,388
Welding Machine	26	0.45	1	12	8	94	38	3,538
Generator	13	0.74	1	10	8	77	38	2,909

Table A.4.1-Alt 2-12. Activity Data - Construct South Mooring Dolphin - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	6	6,453
Derrick Barge	380	0.43	1	163	8	1,307	6	7,320
Secondary Engine	195	0.50	1	98	8	780	6	4,680
Piledriving Hammer	211	0.50	1	106	8	844	6	4,726
End Dump Truck	310	0.25	1	78	8	620	6	3,720
Tugboat	1,000	0.50	1	500	8	4,000	6	22,400
Secondary Engine	100	0.50	1	50	8	400	6	2,400
Truck-Flatbed	230	0.25	1	58	8	460	6	2,760

Table A.4.1-Alt 2-13. Activity Data - Wick Drains - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	9	9,245

Table A.4.1-Alt 2-14. Activity Data - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	8	164,160
Dozers	285	0.35	2	200	8	1,596	8	12,768
Loader	170	0.30	3	153	8	1,224	8	9,792
End Dump Truck	310	0.25	6	465	8	3,720	8	29,760
Water Truck	310	0.25	1	78	8	620	8	4,960

Table A.4.1-Alt 2-15. Activity Data - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	4	82,080
Dozers	285	0.35	2	200	8	1,596	4	6,384
Loader	170	0.30	3	153	8	1,224	4	4,896
End Dump Truck	310	0.25	6	465	8	3,720	4	14,880
Water Truck	310	0.25	1	78	8	620	4	2,480

Table A.4.1-Alt 2-16. Activity Data - Paving - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	30	17,952
Grader	215	0.40	1	86	8	688	30	20,640
Roller	151	0.40	3	181	8	1,450	30	43,488
Vibration Roller	154	0.40	3	185	8	1,478	30	44,352
Water Truck	210	0.30	1	63	8	504	30	15,120
Road Sweeper	190	0.40	1	76	8	608	30	18,240

Table A.4.1-Alt 2-17. Activity Data - Lighting, Fence, Striping, Crane Power - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL								
Flat Bed Truck	230	0.25	1	58	8	460		0
Truck Crane	130	0.20	1	26	8	208		0
Auger	125	0.50	1	63	8	500		0

Table A.4.1-Alt 2-18. Activity Data - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	16	18,876
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	16	34,398
Flatbed Truck	230	0.25	1	58	8	460	16	7,535
Welding Machine	26	0.45	1	12	8	94	16	1,533
Generator	13	0.74	1	10	8	77	16	1,261

Table A.4.1-Alt 2-19. Activity Data - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
LAND EX								
Excavator	428	0.57	1	244	8	1,952	24	46,840
Loader	170	0.68	1	116	8	925	24	22,195
End Dump Truck	310	0.25	4	310	8	2,480	24	59,520

Table A.4.1-Alt 2-20. Activity Data - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
LAND EX								
Excavator	428	0.57	1	244	8	1,952	39	76,116
Loader	170	0.68	1	116	8	925	39	36,067
End Dump Truck	310	0.25	4	310	8	2,480	39	96,720
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	65	0
Secondary Engine	500	0.00	1	0	24	0	65	0
Bottom Dump Scow	250	0.05	1	13	24	300	65	19,500
Tug Boat	2,500	0.30	1	750	6	4,500	65	292,500
Secondary Engine	400	0.25	1	100	6	600	65	39,000
Work Tug	750	0.20	1	150	12	1,800	65	117,000
Secondary Engine	150	0.25	1	38	12	450	65	29,250
Crew/Survey Boat	400	0.30	1	120	24	2,880	65	187,200
Secondary Engine	80	0.50	1	40	24	960	65	62,400

Table A.4.1-Alt 2-21. Activity Data - Remove Cellular Sheetpile - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	65	74,906
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	65	136,500
Excavator	428	0.57	1	244	8	1,952	65	126,859
Flatbed Truck	230	0.25	1	58	8	460	65	29,900
Welding Machine	26	0.50	1	13	8	104	65	6,760
Generator	13	0.74	1	10	8	77	65	5,002

Table A.4.1-Alt 2-22. Activity Data - Rock Revetment - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	48	99,072
Secondary Engine	200	0.50	1	100	8	800	48	38,400
Front End Loader	400	0.68	1	272	8	2,176	48	104,448
Tug Boat	1,200	0.20	1	240	8	1,920	48	92,160
Secondary Engine	150	0.50	1	75	8	600	48	28,800
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	48	341,040
Secondary Engine	400	0.50	1	200	6	1,160	48	55,680
Crew/Survey Boat	400	0.30	1	120	8	960	48	46,080
Secondary Engine	80	0.50	1	40	8	320	48	15,360

Table A.4.1-Alt 2-23. Activity Data - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	18	0
Secondary Engine	500	0.00	1	0	24	0	18	0
Bottom Dump Scow	250	0.05	1	13	24	300	18	5,400
Tug Boat	2,500	0.30	1	750	6	4,500	18	81,000
Secondary Engine	400	0.25	1	100	6	600	18	10,800
Work Tug	750	0.20	1	150	12	1,800	18	32,400
Secondary Engine	150	0.25	1	38	12	450	18	8,100
Crew/Survey Boat	400	0.30	1	120	24	2,880	18	51,840
Secondary Engine	80	0.50	1	40	24	960	18	17,280

Table A.4.1-Alt 2-24. Activity Data - Ground Improvements Pier D - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
STONE COLUMN INSTALLATION EQ								
Stone Column Crane - 100 Ton	335	0.43	3	432	8	3,457	68	234,168
Vibratory Probe & Power Pack	350	0.75	3	788	8	6,300	68	426,720
Auger Crane - 100 Ton	335	0.43	1	144	8	1,152	68	78,056
Auger & Hydraulic Power Pack	350	0.75	1	263	8	2,100	68	142,240
Welding Machine	26	0.50	1	13	8	104	68	7,044
Generator	13	0.74	1	10	8	77	68	5,213
Excavator	428	0.25	1	107	8	856	68	57,980
Loader	170	0.30	4	204	8	1,632	68	110,541
End Dump Truck	310	0.25	4	310	8	2,480	68	167,979
MARINE ROCK DELIVERY EQ								
Derrick Barge	800	0.30	1	240	8	1,920	34	65,024
Front End Loader	400	0.30	1	120	8	960	34	32,512
Tug Boat	1,650	0.30	1	495	8	3,960	34	134,112
Tug Boat	2,500	0.50	1	1,250	8	10,000	34	338,667

Table A.4.1-Alt 2-25. Activity Data - Demo E12-13 Wharf - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	109	48,834
Excavator	428	0.57	1	244	8	1,952	109	213,123
Flatbed Truck	230	0.25	1	58	8	460	109	50,232
End Dump Truck	310	0.30	4	372	8	2,976	109	324,979
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	109	225,389
Secondary Engine	200	0.50	1	100	8	800	109	87,200
Work Tug	750	0.20	1	150	8	1,200	109	131,040
Secondary Engine	150	0.50	1	75	8	600	109	65,400
Hydra-Crane	130	0.43	1	56	8	447	109	48,834
Excavator	428	0.57	1	244	8	1,952	109	213,123
Flatbed Truck	230	0.25	1	58	8	460	109	50,232
End Dump Truck	310	0.30	3	279	8	2,232	109	243,734

Table A.4.1-Alt 2-26. Activity Data - Lift #1 (~ -30) - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	27	55,728
Secondary Engine	200	0.50	1	100	8	800	27	21,600
Front End Loader	400	0.68	1	272	8	2,176	27	58,752
Tug Boat	1,200	0.20	1	240	8	1,920	27	51,840
Secondary Engine	150	0.50	1	75	8	600	27	16,200
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	27	191,835
Secondary Engine	400	0.50	1	200	6	1,160	27	31,320
Crew/Survey Boat	400	0.30	1	120	8	960	27	25,920
Secondary Engine	80	0.50	1	40	8	320	27	8,640

Table A.4.1-Alt 2-27. Activity Data - Lift #2 (~ -15) - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	16	33,024
Secondary Engine	200	0.50	1	100	8	800	16	12,800
Front End Loader	400	0.68	1	272	8	2,176	16	34,816
Tug Boat	1,200	0.20	1	240	8	1,920	16	30,720
Secondary Engine	150	0.50	1	75	8	600	16	9,600
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	16	113,680
Secondary Engine	400	0.50	1	200	6	1,160	16	18,560
Crew/Survey Boat	400	0.30	1	120	8	960	16	15,360
Secondary Engine	80	0.50	1	40	8	320	16	5,120

Table A.4.1-Alt 2-28. Activity Data - Lift #3 (~ 0) - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	14	28,896
Secondary Engine	200	0.50	1	100	8	800	14	11,200
Front End Loader	400	0.68	1	272	8	2,176	14	30,464
Tug Boat	1,200	0.20	1	240	8	1,920	14	26,880
Secondary Engine	150	0.50	1	75	8	600	14	8,400
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	14	99,470
Secondary Engine	400	0.50	1	200	6	1,160	14	16,240
Crew/Survey Boat	400	0.30	1	120	8	960	14	13,440
Secondary Engine	80	0.50	1	40	8	320	14	4,480

Table A.4.1-Alt 2-29. Activity Data - Lift #4 (~ +15) - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	12	24,768
Secondary Engine	200	0.50	1	100	8	800	12	9,600
Front End Loader	400	0.68	1	272	8	2,176	12	26,112
Tug Boat	1,200	0.20	1	240	8	1,920	12	23,040
Secondary Engine	150	0.50	1	75	8	600	12	7,200
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	12	85,260
Secondary Engine	400	0.50	1	200	6	1,160	12	13,920
Crew/Survey Boat	400	0.30	1	120	8	960	12	11,520
Secondary Engine	80	0.50	1	40	8	320	12	3,840

Table A.4.1-Alt 2-30. Activity Data - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	12	12,326
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	12	246,240
Dozers	285	0.35	2	200	8	1,596	12	19,152
Loader	170	0.30	3	153	8	1,224	12	14,688
End Dump Truck	310	0.25	6	465	8	3,720	12	44,640
Water Truck	310	0.25	1	78	8	620	12	7,440

Table A.4.1-Alt 2-31. Activity Data - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	30	30,816
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	18	369,360
Dozers	285	0.35	2	200	8	1,596	18	28,728
Loader	170	0.30	3	153	8	1,224	18	22,032
End Dump Truck	310	0.25	6	465	8	3,720	18	66,960
Water Truck	310	0.25	1	78	8	620	18	11,160

Table A.4.1-Alt 2-32. Activity Data - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	30	30,816
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	24	492,480
Dozers	285	0.35	2	200	8	1,596	24	38,304
Loader	170	0.30	3	153	8	1,224	24	29,376
End Dump Truck	310	0.25	6	465	8	3,720	24	89,280
Water Truck	310	0.25	1	78	8	620	24	14,880

Table A.4.1-Alt 2-33. Activity Data - Utility Construction - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WICK DRAINS								
Wick Drain Rig - Excavator Mounted	428	0.30	1	128	8	1,027	27	27,734
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	45	923,400
Dozers	285	0.35	2	200	8	1,596	45	71,820
Loader	170	0.30	3	153	8	1,224	45	55,080
End Dump Truck	310	0.25	6	465	8	3,720	45	167,400
Water Truck	310	0.25	1	78	8	620	45	27,900

Table A.4.1-Alt 2-34. Activity Data - Remove Surcharge - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	36	738,720
Dozers	285	0.35	2	200	8	1,596	36	57,456
Loader	170	0.30	3	153	8	1,224	36	44,064
End Dump Truck	310	0.25	6	465	8	3,720	36	133,920
Water Truck	310	0.25	1	78	8	620	36	22,320

Table A.4.1-Alt 2-35. Activity Data - Container Yard Development - POLB Middle Harbor Alt 2 P1/S1

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD UTILITIES								
Pipelay	300	0.50	1	150	8	1,200		0
Auger	125	0.50	1	63	8	500		0
Crane	130	0.43	1	56	8	447		0
Grader	215	0.61	3	393	8	3,148		0
End Dump Truck	310	0.25	1	78	8	620		0
Flat Bed Truck	230	0.25	2	115	8	920		0
Concrete Truck	250	1	4	600	8	4,800		0
Front End Loader	400	0.40	2	320	8	2,560		0
Trencher	200	0.20	1	40	8	320		0
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	223	133,204
Grader	215	0.40	1	86	8	688	223	153,149
Roller	151	0.40	3	181	8	1,450	223	322,681
Vibration Roller	154	0.40	3	185	8	1,478	223	329,092
Water Truck	210	0.30	1	63	8	504	223	112,190
Road Sweeper	190	0.40	1	76	8	608	223	135,341

Table A.4.1-Alt 2-36. Total Construction Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.04	0.11	0.00	0.01	0.01	0.01
Excavator	0.04	0.15	0.49	0.00	0.03	0.03	0.02
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
End Dump Truck	0.05	0.23	0.75	0.00	0.04	0.04	0.04
Subtotal	0.11	0.44	1.48	0.00	0.08	0.08	0.08
WHARF DEMOLITION MARINE							
Derrick Barge	0.04	0.25	0.52	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.05	0.20	0.00	0.01	0.01	0.01
Work Tug	0.02	0.20	0.55	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Hydra-Crane	0.01	0.04	0.11	0.00	0.01	0.01	0.01
Excavator	0.04	0.15	0.49	0.00	0.03	0.03	0.02
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
End Dump Truck	0.04	0.17	0.56	0.00	0.03	0.03	0.03
Subtotal	0.18	0.93	2.71	0.00	0.14	0.14	0.13
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.02	0.09	0.29	0.00	0.02	0.02	0.01
Vibratory Hammer & Power Pack	0.04	0.16	0.53	0.00	0.03	0.03	0.03
Excavator	0.04	0.15	0.49	0.00	0.03	0.03	0.02
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.01	0.05	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.11	0.45	1.51	0.00	0.08	0.08	0.08

Table A.4.1-Alt 2-37. Total Construction Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Flatbed Truck	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.06	0.19	0.00	0.01	0.01	0.01

Table A.4.1-Alt 2-38. Total Construction Emissions - Excavation Fronting E24 - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Tug Boat	0.07	0.65	1.76	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Work Tug	0.03	0.26	0.70	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.04	0.28	1.66	0.10	0.07	0.07	0.06
Secondary Engine	0.01	0.18	0.24	0.00	0.02	0.02	0.02
Subtotal	0.17	1.45	4.66	0.11	0.18	0.18	0.17
LAND EX							
Excavator	0.03	0.13	0.42	0.00	0.02	0.02	0.02
Loader	0.01	0.06	0.20	0.00	0.02	0.02	0.01
End Dump Truck	0.04	0.16	0.54	0.00	0.03	0.03	0.03
Subtotal	0.08	0.35	1.16	0.00	0.07	0.07	0.06

Table A.4.1-Alt 2-39. Total Construction Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.02	0.15	0.32	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Front End Loader	0.02	0.10	0.34	0.00	0.02	0.02	0.02
Tug Boat	0.02	0.20	0.54	0.00	0.02	0.02	0.01
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.02	0.21	0.56	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.07	0.39	0.02	0.02	0.02	0.01
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.00
Subtotal	0.13	0.86	2.54	0.03	0.11	0.11	0.10

Table A.4.1-Alt 2-40. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Crane - 200 Ton	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.01	0.06	0.20	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Loader-Wheel	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Jet Pump	0.01	0.01	0.04	0.00	0.00	0.00	0.00
End Dump Truck	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.01	0.06	0.00	0.00	0.00	0.00
Truck-Lowboy	0.01	0.03	0.08	0.00	0.00	0.00	0.00
Subtotal	0.06	0.25	0.85	0.00	0.05	0.05	0.04
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.01	0.05	0.16	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.03	0.12	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Tugboat	0.04	0.37	1.01	0.00	0.03	0.03	0.03
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Truck-Flatbed	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Subtotal	0.10	0.62	1.79	0.00	0.07	0.07	0.07
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.08	0.32	1.05	0.00	0.06	0.06	0.05
Loader-Wheel	0.02	0.06	0.23	0.00	0.01	0.01	0.01
Hydraulic Crane	0.02	0.09	0.28	0.00	0.02	0.02	0.02
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Subtotal	0.16	0.65	2.19	0.00	0.12	0.12	0.11
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.02	0.19	0.62	0.00	0.05	0.05	0.04
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Crane Barge - 150 ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.20	0.27	0.00	0.02	0.02	0.02
Concrete Pump	0.05	0.18	0.67	0.00	0.04	0.04	0.03
Concrete Trucks	0.10	0.42	1.39	0.00	0.07	0.07	0.07
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Tugboat	0.06	0.58	1.57	0.00	0.05	0.05	0.04
Secondary Engine	0.01	0.15	0.20	0.00	0.02	0.02	0.02
Concrete Saw	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.02	0.09	0.32	0.00	0.02	0.02	0.02
Boom Truck	0.02	0.09	0.30	0.00	0.02	0.02	0.01
Subtotal	0.41	2.34	6.86	0.01	0.36	0.36	0.34
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.02	0.09	0.31	0.00	0.02	0.02	0.02
Vibratory Hammer & Power Pack	0.04	0.17	0.57	0.00	0.03	0.03	0.03
Flatbed Truck	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.01	0.05	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Subtotal	0.08	0.32	1.08	0.00	0.06	0.06	0.06

Table A.4.1-Alt 2-41. Total Construction Emissions - Paving - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Grader	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Roller	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Vibration Roller	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Road Sweeper	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.03	0.10	0.00	0.01	0.01	0.01

Table A.4.1-Alt 2-42. Total Construction Emissions - Prepare for Toe Dike / Construct Dike (1st Lift) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Front End Loader	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Tug Boat	0.03	0.24	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.09	0.88	2.38	0.00	0.07	0.07	0.07
Secondary Engine	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.22	1.69	4.83	0.03	0.18	0.18	0.17

Table A.4.1-Alt 2-43. Total Construction Emissions - Fill Within Dike - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Tug Boat	0.02	0.17	0.45	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Work Tug	0.01	0.07	0.18	0.00	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.07	0.43	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.06	0.00	0.01	0.01	0.01
Subtotal	0.04	0.37	1.20	0.03	0.05	0.05	0.04

Table A.4.1-Alt 2-44. Total Construction Emissions - Remaining Dike Lifts - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Front End Loader	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Tug Boat	0.03	0.24	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.09	0.88	2.38	0.00	0.07	0.07	0.07
Secondary Engine	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.22	1.69	4.83	0.03	0.18	0.18	0.17

Table A.4.1-Alt 2-45. Total Construction Emissions - Remaining Fill Lifts - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.06	0.00	0.00	0.00	0.00
Tug Boat	0.06	0.56	1.51	0.00	0.04	0.04	0.04
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Work Tug	0.02	0.22	0.60	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.08	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.03	0.24	1.42	0.09	0.06	0.06	0.05
Secondary Engine	0.01	0.15	0.21	0.00	0.02	0.02	0.02
Subtotal	0.14	1.24	3.99	0.09	0.15	0.15	0.14

Table A.4.1-Alt 2-46. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Crane - 200 Ton	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Loader-Wheel	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Jet Pump	0.00	0.01	0.04	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Truck-Lowboy	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Subtotal	0.05	0.21	0.72	0.00	0.04	0.04	0.04
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Piledriving Hammer	0.01	0.03	0.10	0.00	0.01	0.01	0.00
End Dump Truck	0.01	0.02	0.07	0.00	0.00	0.00	0.00
Tugboat	0.03	0.31	0.85	0.00	0.03	0.03	0.02
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.00
Truck-Flatbed	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Subtotal	0.08	0.53	1.52	0.00	0.06	0.06	0.06
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.05	0.23	0.76	0.00	0.04	0.04	0.04
Loader-Wheel	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Crane - 150 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Subtotal	0.11	0.47	1.58	0.00	0.09	0.09	0.08
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Crane - 150 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Crane Barge - 150 ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.14	0.20	0.00	0.02	0.02	0.02
Concrete Pump	0.03	0.13	0.48	0.00	0.03	0.03	0.02
Concrete Trucks	0.07	0.30	1.00	0.00	0.05	0.05	0.05
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Tugboat	0.04	0.41	1.13	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.11	0.15	0.00	0.01	0.01	0.01
Concrete Saw	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.02	0.07	0.23	0.00	0.01	0.01	0.01
Boom Truck	0.02	0.07	0.22	0.00	0.01	0.01	0.01
Subtotal	0.30	1.61	4.69	0.01	0.24	0.24	0.22
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Flatbed Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Subtotal	0.04	0.14	0.47	0.00	0.03	0.03	0.02

Table A.4.1-Alt 2-47. Total Construction Emissions - Construct South Mooring Dolphin - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Derrick Barge	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Piledriving Hammer	0.00	0.00	0.01	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Tugboat	0.00	0.05	0.13	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.08	0.23	0.00	0.01	0.01	0.01

Table A.4.1-Alt 2-48. Total Construction Emissions - Wick Drains - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.00	0.01	0.03	0.00	0.00	0.00	0.00

Table A.4.1-Alt 2-49. Total Construction Emissions - Surcharge (Initial Pump, Plus Clamshell or Truck) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.04	0.15	0.51	0.00	0.03	0.03	0.02
Dozers	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Loader	0.00	0.01	0.03	0.00	0.00	0.00	0.00
End Dump Truck	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Subtotal	0.05	0.21	0.68	0.00	0.04	0.04	0.03

Table A.4.1-Alt 2-50. Daily Construction Emissions - Remove Surcharge to Slip 1 Fill Site - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.02	0.08	0.25	0.00	0.01	0.01	0.01
Dozers	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Loader	0.00	0.00	0.02	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.02	0.10	0.34	0.00	0.02	0.02	0.02

Table A.4.1-Alt 2-51. Total Construction Emissions - Paving - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.00	0.01	0.06	0.00	0.00	0.00	0.00
Grader	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Roller	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Vibration Roller	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Road Sweeper	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Subtotal	0.04	0.14	0.49	0.00	0.03	0.03	0.03

Table A.4.1-Alt 2-52. Total Construction Emissions - Construct Retaining Structure at Pier D Oil Area - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Flatbed Truck	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.02	0.06	0.20	0.00	0.01	0.01	0.01

Table A.4.1-Alt 2-53. Total Construction Emissions - Excavate & Truck Material in Cell Bulkhead - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
LAND EX							
Excavator	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Loader	0.00	0.02	0.07	0.00	0.01	0.01	0.00
End Dump Truck	0.01	0.06	0.18	0.00	0.01	0.01	0.01
Subtotal	0.03	0.12	0.40	0.00	0.02	0.02	0.02

Table A.4.1-Alt 2-54. Total Construction Emissions - Excavate Material Fronting Pier D - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
LAND EX							
Excavator	0.02	0.07	0.23	0.00	0.01	0.01	0.01
Loader	0.01	0.03	0.11	0.00	0.01	0.01	0.01
End Dump Truck	0.02	0.09	0.30	0.00	0.02	0.02	0.01
Subtotal	0.05	0.19	0.64	0.00	0.04	0.04	0.03
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Tug Boat	0.06	0.60	1.64	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Work Tug	0.03	0.24	0.65	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.03	0.26	1.54	0.10	0.06	0.06	0.06
Secondary Engine	0.01	0.16	0.23	0.00	0.02	0.02	0.02
Subtotal	0.16	1.35	4.33	0.10	0.17	0.17	0.16

Table A.4.1-Alt 2-55. Total Construction Emissions - Remove Cellular Sheetpile - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.02	0.07	0.23	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.03	0.13	0.42	0.00	0.02	0.02	0.02
Excavator	0.03	0.12	0.39	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.09	0.36	1.20	0.00	0.07	0.07	0.06

Table A.4.1-Alt 2-56. Total Construction Emissions - Rock Revetment - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.02	0.15	0.31	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.12	0.00	0.01	0.01	0.01
Front End Loader	0.02	0.10	0.32	0.00	0.02	0.02	0.02
Tug Boat	0.02	0.19	0.52	0.00	0.02	0.02	0.01
Secondary Engine	0.01	0.03	0.09	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.08	0.70	1.91	0.00	0.06	0.06	0.05
Secondary Engine	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.06	0.38	0.02	0.02	0.02	0.01
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.00
Subtotal	0.18	1.35	3.87	0.03	0.15	0.15	0.14

Table A.4.1-Alt 2-57. Total Construction Emissions - Hydraulic or Clamshell Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Tug Boat	0.02	0.17	0.45	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Work Tug	0.01	0.07	0.18	0.00	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.07	0.43	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.06	0.00	0.01	0.01	0.01
Subtotal	0.04	0.37	1.20	0.03	0.05	0.05	0.04

Table A.4.1-Alt 2-58. Total Construction Emissions - Ground Improvements Pier D - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
STONE COLUMN INSTALLATION EQ							
Stone Column Crane - 100 Ton	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Vibratory Probe & Power Pack	0.09	0.40	1.32	0.00	0.07	0.07	0.06
Auger Crane - 100 Ton	0.02	0.07	0.24	0.00	0.01	0.01	0.01
Auger & Hydraulic Power Pack	0.03	0.13	0.44	0.00	0.02	0.02	0.02
Welding Machine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Excavator	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Loader	0.02	0.11	0.34	0.00	0.03	0.03	0.02
End Dump Truck	0.04	0.16	0.52	0.00	0.03	0.03	0.03
Subtotal	0.28	1.15	3.83	0.01	0.22	0.22	0.20
MARINE ROCK DELIVERY EQ							
Derrick Barge	0.02	0.05	0.32	0.00	0.01	0.01	0.01
Front End Loader	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Tug Boat	0.03	0.28	0.75	0.00	0.02	0.02	0.02
Tug Boat	0.08	0.70	1.89	0.00	0.06	0.06	0.05
Subtotal	0.13	1.06	3.07	0.00	0.09	0.09	0.09

Table A.4.1-Alt 2-59. Total Construction Emissions - Demo - E12-13 Wharf - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Excavator	0.05	0.20	0.66	0.00	0.04	0.04	0.03
Flatbed Truck	0.01	0.04	0.16	0.00	0.01	0.01	0.01
End Dump Truck	0.07	0.30	1.00	0.00	0.05	0.05	0.05
Subtotal	0.14	0.59	1.97	0.00	0.11	0.11	0.10
WHARF DEMOLITION MARINE							
Derrick Barge	0.05	0.33	0.70	0.00	0.04	0.04	0.03
Secondary Engine	0.02	0.07	0.27	0.00	0.01	0.01	0.01
Work Tug	0.03	0.27	0.73	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.06	0.20	0.00	0.02	0.02	0.01
Hydra-Crane	0.01	0.05	0.15	0.00	0.01	0.01	0.01
Excavator	0.05	0.20	0.66	0.00	0.04	0.04	0.03
Flatbed Truck	0.01	0.04	0.16	0.00	0.01	0.01	0.01
End Dump Truck	0.05	0.23	0.75	0.00	0.04	0.04	0.04
Subtotal	0.23	1.25	3.62	0.01	0.18	0.18	0.17

Table A.4.1-Alt 2-60. Total Construction Emissions - Lift #1 (~ -30) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.08	0.17	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.02	0.07	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Tug Boat	0.01	0.11	0.29	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.04	0.39	1.07	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Crew/Survey Boat	0.00	0.04	0.21	0.01	0.01	0.01	0.01
Secondary Engine	0.00	0.02	0.03	0.00	0.00	0.00	0.00
Subtotal	0.10	0.76	2.17	0.02	0.08	0.08	0.08

Table A.4.1-Alt 2-61. Total Construction Emissions - Lift #2 (~ -15) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.05	0.10	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat	0.01	0.06	0.17	0.00	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.03	0.23	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.00	0.02	0.13	0.01	0.01	0.01	0.00
Secondary Engine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.06	0.45	1.29	0.01	0.05	0.05	0.05

Table A.4.1-Alt 2-62. Total Construction Emissions - Lift #3 (~ 0) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.04	0.09	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.03	0.09	0.00	0.01	0.01	0.00
Tug Boat	0.01	0.06	0.15	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.02	0.20	0.56	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.00	0.02	0.11	0.01	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.05	0.39	1.13	0.01	0.04	0.04	0.04

Table A.4.1-Alt 2-63. Total Construction Emissions - Lift #4 (~ +15) - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.01	0.04	0.08	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Front End Loader	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Tug Boat	0.01	0.05	0.13	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Tug Boat Rock Transport - Within 3 nm	0.02	0.18	0.48	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.00	0.02	0.09	0.01	0.00	0.00	0.00
Secondary Engine	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Subtotal	0.04	0.34	0.97	0.01	0.04	0.04	0.03

Table A.4.1-Alt 2-64. Total Construction Emissions - Initial Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Subtotal	0.00	0.01	0.04	0.00	0.00	0.00	0.00
ROLL SURCHARGE							
Scrapers	0.05	0.23	0.76	0.00	0.04	0.04	0.04
Dozers	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Loader	0.00	0.01	0.05	0.00	0.00	0.00	0.00
End Dump Truck	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.07	0.31	1.03	0.00	0.06	0.06	0.05

Table A.4.1-Alt 2-65. Total Construction Emissions - 2nd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Subtotal	0.01	0.03	0.10	0.00	0.01	0.01	0.00
ROLL SURCHARGE							
Scrapers	0.08	0.34	1.14	0.00	0.06	0.06	0.06
Dozers	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Loader	0.00	0.02	0.07	0.00	0.01	0.01	0.00
End Dump Truck	0.01	0.06	0.21	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.11	0.46	1.54	0.00	0.08	0.08	0.08

Table A.4.1-Alt 2-66. Total Construction Emissions - 3rd Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Subtotal	0.01	0.03	0.10	0.00	0.01	0.01	0.00
ROLL SURCHARGE							
Scrapers	0.11	0.46	1.52	0.00	0.08	0.08	0.07
Dozers	0.01	0.04	0.12	0.00	0.01	0.01	0.01
Secondary Engine							
Loader	0.01	0.03	0.09	0.00	0.01	0.01	0.01
End Dump Truck	0.02	0.08	0.28	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Subtotal	0.15	0.62	2.05	0.00	0.11	0.11	0.10

Table A.4.1-Alt 2-67. Total Construction Emissions - 4th Surcharge and Wick Drains - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WICK DRAINS							
Wick Drain Rig - Excavator Mounted	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Subtotal	0.01	0.03	0.09	0.00	0.00	0.00	0.00
ROLL SURCHARGE							
Scrapers	0.20	0.86	2.85	0.00	0.15	0.15	0.14
Dozers	0.02	0.07	0.22	0.00	0.01	0.01	0.01
Loader	0.01	0.05	0.17	0.00	0.01	0.01	0.01
End Dump Truck	0.04	0.16	0.52	0.00	0.03	0.03	0.03
Water Truck	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Subtotal	0.27	1.16	3.84	0.01	0.21	0.21	0.19

Table A.4.1-Alt 2-68. Total Construction Emissions - Remove Surcharge - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROLL SURCHARGE							
Scrapers	0.16	0.68	2.28	0.00	0.12	0.12	0.11
Dozers	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Loader	0.01	0.04	0.14	0.00	0.01	0.01	0.01
End Dump Truck	0.03	0.12	0.41	0.00	0.02	0.02	0.02
Water Truck	0.00	0.02	0.07	0.00	0.00	0.00	0.00
Subtotal	0.22	0.92	3.08	0.00	0.17	0.17	0.15

Table A.4.1-Alt 2-69. Total Construction Emissions - Container Yard Development - POLB Middle Harbor Alt 2 P1/S1

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD UTILITIES							
Pipelayler	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auger	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Front End Loader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trencher	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00						
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.03	0.11	0.41	0.00	0.02	0.02	0.02
Grader	0.03	0.13	0.47	0.00	0.03	0.03	0.02
Roller	0.07	0.31	1.00	0.00	0.08	0.08	0.07
Vibration Roller	0.07	0.32	1.02	0.00	0.08	0.08	0.07
Water Truck	0.02	0.09	0.35	0.00	0.02	0.02	0.02
Road Sweeper	0.03	0.11	0.42	0.00	0.02	0.02	0.02
Subtotal	0.26	1.07	3.66	0.01	0.25	0.25	0.23

Table A.4.1-Alt 2-70. Total Conformity-Related Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 1 (1 of 3)

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolish Existing Facilities							
Wharf Demolition Landside	0.11	0.44	1.48	0.00	0.08	0.08	0.08
Wharf Demolition Marine	0.18	0.93	2.71	0.00	0.14	0.14	0.13
Sheet Pile Bulkhead Demolition	0.11	0.45	1.51	0.00	0.08	0.08	0.08
Construct New Bulkhead							
Retaining Bulkhead Construction	0.01	0.06	0.19	0.00	0.01	0.01	0.01
Excavation Fronting E24							
Clamshell Dredging	0.17	1.45	4.66	0.11	0.18	0.18	0.17
Land Ex	0.08	0.35	1.16	0.00	0.07	0.07	0.06
Construct New Armor Slope							
Rock Placement, Push Off & Tub & Orange Peels	0.13	0.86	2.54	0.03	0.11	0.11	0.10
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0.06	0.25	0.85	0.00	0.05	0.05	0.04
Drive 24-In Octagonal Piles - Water	0.10	0.62	1.79	0.00	0.07	0.07	0.07
Drive Piles - Misc Activities	0.16	0.65	2.19	0.00	0.12	0.12	0.11
Reinforced Concrete Wharf	0.41	2.34	6.86	0.01	0.36	0.36	0.34
Retaining Bulkhead Construction	0.08	0.32	1.08	0.00	0.06	0.06	0.06
Utility Construction							
New Container Yard Utilities	-	-	-	-	-	-	-
Paving							
New Container Yard Construction - Paving	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Lighting, Striping, Crane Power							
New Container Yard Construction - Electrical	-	-	-	-	-	-	-
Prepare for Toe Diek/Construct Dike (1st Lift)							
Rock Placement, Push Off & Tub & Orange Peels	0.22	1.69	4.83	0.03	0.18	0.18	0.17
Fill within Dike							
Clamshell Dredging	0.04	0.37	1.20	0.03	0.05	0.05	0.04
Remaining Dike Lifts							
Rock Placement, Push Off & Tub & Orange Peels	0.22	1.69	4.83	0.03	0.18	0.18	0.17
Remaining Fill Lifts							
Clamshell Dredging	0.14	1.24	3.99	0.09	0.15	0.15	0.14
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0.05	0.21	0.72	0.00	0.04	0.04	0.04
Drive 24-In Octagonal Piles - Water	0.08	0.53	1.52	0.00	0.06	0.06	0.06
Drive Piles - Misc Activities	0.11	0.47	1.58	0.00	0.09	0.09	0.08
Reinforced Concrete Wharf	0.30	1.61	4.69	0.01	0.24	0.24	0.22
Retaining Bulkhead Construction	0.04	0.14	0.47	0.00	0.03	0.03	0.02
Construct South Mooring Dolphin							
Drive 24-In Octagonal Piles - Water	0.01	0.08	0.23	0.00	0.01	0.01	0.01
Wick Drains							
Wick Drains	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Remove Surcharge							
Roll Surcharge	0.05	0.21	0.68	0.00	0.04	0.04	0.03
Remove Surcharge to Slip 1 Fill Site							
Roll Surcharge	0.02	0.10	0.34	0.00	0.02	0.02	0.02
Utility Construction							
New Container Yard Utilities	-	-	-	-	-	-	-

Table A.4.1-Alt 2-70. Total Conformity-Related Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 1 (2 of 3)

Paving							
New Container Yard Construction - Paving	0.04	0.14	0.49	0.00	0.03	0.03	0.03
Lighting, Fence, Stripine, Crane Power							
New Container Yard Construction - Electrical	-	-	-	-	-	-	-
Construct Retaining Structure at Pier D Oil Area							
Retaining Bulkhead Construction	0.02	0.06	0.20	0.00	0.01	0.01	0.01
Excavate Trucking Material in Cell Bulkhead							
Land Ex	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Excavate Material Fronting Pier D							
Land Ex	0.05	0.19	0.64	0.00	0.04	0.04	0.03
Clamshell Dredging	0.16	1.35	4.33	0.10	0.17	0.17	0.16
Remove Cellular Sheetpile							
Sheet Pile Bulkhead Demolition	0.09	0.36	1.20	0.00	0.07	0.07	0.06
Rock Revetment							
Rock Placement, Push Off & Tub & Orange Peels	0.18	1.35	3.87	0.03	0.15	0.15	0.14
Hydraulic or Clamshell Dredge to -55ft							
Clamshell Dredging	0.04	0.37	1.20	0.03	0.05	0.05	0.04
Ground Improvements Pier D							
Stone Column Installation Eq	0.28	1.15	3.83	0.01	0.22	0.22	0.20
Marine Rock Delivery Eq	0.13	1.06	3.07	0.00	0.09	0.09	0.09
Demo - E12-13 Wharf							
Wharf Demolition Landside	0.14	0.59	1.97	0.00	0.11	0.11	0.10
Wharf Demolition Marine	0.23	1.25	3.62	0.01	0.18	0.18	0.17
Lift #1 (- -30)							
Rock Placement, Push Off & Tub & Orange Peels	0.10	0.76	2.17	0.02	0.08	0.08	0.08
Lift #2 (- -15)							
Rock Placement, Push Off & Tub & Orange Peels	0.06	0.45	1.29	0.01	0.05	0.05	0.05
Lift #3 (- 0)							
Rock Placement, Push Off & Tub & Orange Peels	0.05	0.39	1.13	0.01	0.04	0.04	0.04
Lift #4 (- +15)							
Rock Placement, Push Off & Tub & Orange Peels	0.04	0.34	0.97	0.01	0.04	0.04	0.03
Initial Surcharge and Wick Drains							
Wick Drains	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Roll Surcharge	0.07	0.31	1.03	0.00	0.06	0.06	0.05
2 nd Surcharge and Wick Drains							
Wick Drains	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Roll Surcharge	0.11	0.46	1.54	0.00	0.08	0.08	0.08
3rd Surcharge and Wick Drains							
Wick Drains	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Roll Surcharge	0.15	0.62	2.05	0.00	0.11	0.11	0.10
4th Surcharge and Wick Drains							
Wick Drains	0.01	0.03	0.09	0.00	0.00	0.00	0.00
Roll Surcharge	0.27	1.16	3.84	0.01	0.21	0.21	0.19
Remove Surcharge							
Roll Surcharge	0.22	0.92	3.08	0.00	0.17	0.17	0.15
Container Yard Development							
New Container Yard Utilities	-	-	-	-	-	-	-
New Container Yard Construction - Paving	0.26	1.07	3.66	0.01	0.25	0.25	0.23
New Container Yard Construction - Electrical	-	-	-	-	-	-	-

Table A.4.1-Alt 2-70. Total Conformity-Related Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 1 (3 of 3)

Haul off dump trucks for spoil							
Triple Track Installation Demo Eq	-	-	-	-	-	-	-
Triple Track Utility Relocation Eq	-	-	-	-	-	-	-
Triple Track Grading Eq	-	-	-	-	-	-	-
Triple Track Retaining Wall Eq	-	-	-	-	-	-	-
Triple Track Trackwork Eq	-	-	-	-	-	-	-
Triple Track Miscellaneous Eq	-	-	-	-	-	-	-
Vibratory Compactor							
Grading	-	-	-	-	-	-	-
Survey	-	-	-	-	-	-	-
Civil	-	-	-	-	-	-	-
Electrical	-	-	-	-	-	-	-
Transformer Setup	-	-	-	-	-	-	-
Test	-	-	-	-	-	-	-
Paving	-	-	-	-	-	-	-
Fence Installation	-	-	-	-	-	-	-
Overhead Subtransmission Line Construction							
Installation of 160 LWS poles and removal of wood poles	-	-	-	-	-	-	-
Wire Replacement/Attachment and Termination	-	-	-	-	-	-	-
Final Connection of New Lines	-	-	-	-	-	-	-
Other Emissions							
Fugitive Dust	-	-	-	-	-	-	-
Commuter Emissions	-	-	-	-	-	-	-
Total Emissions	5.65	31.66	98.11	0.61	4.69	4.69	4.33

Table A.4.1-Alt 2-71. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	60	69,144
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	60	126,000
Excavator	428	0.57	1	244	8	1,952	60	117,101
Flatbed Truck	230	0.25	1	58	8	460	60	27,600
Welding Machine	26	0.50	1	13	8	104	60	6,240
Generator	13	0.74	1	10	8	77	60	4,618
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	60	26,832
Excavator	428	0.57	1	244	8	1,952	60	117,101
Flatbed Truck	230	0.25	1	58	8	460	60	27,600
End Dump Truck	310	0.30	4	372	8	2,976	60	178,560
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	60	123,840
Secondary Engine	200	0.50	1	100	8	800	60	48,000
Work Tug	750	0.20	1	150	8	1,200	60	72,000
Secondary Engine	150	0.50	1	75	8	600	60	36,000
Hydra-Crane	130	0.43	1	56	8	447	60	26,832
Excavator	428	0.57	1	244	8	1,952	60	117,101
Flatbed Truck	230	0.25	1	58	8	460	60	27,600
End Dump Truck	310	0.30	3	279	8	2,232	60	133,920

Table A.4.1-Alt 2-72. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	9	10,372
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	9	18,900
Flatbed Truck	230	0.25	1	58	8	460	9	4,140
Welding Machine	26	0.45	1	12	8	94	9	842
Generator	13	0.74	1	10	8	77	9	693

Table A.4.1-Alt 2-73. Activity Data - Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	30	0
Secondary Engine	500	0.00	1	0	24	0	30	0
Bottom Dump Scow	250	0.05	1	13	24	300	30	9,000
Tug Boat	2,500	0.30	1	750	6	4,500	30	135,000
Secondary Engine	400	0.25	1	100	6	600	30	18,000
Work Tug	750	0.20	1	150	12	1,800	30	54,000
Secondary Engine	150	0.25	1	38	12	450	30	13,500
Crew/Survey Boat	400	0.30	1	120	24	2,880	30	86,400
Secondary Engine	80	0.50	1	40	24	960	30	28,800

Table A.4.1-Alt 2-74. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	60	123,840
Secondary Engine	200	0.50	1	100	8	800	60	48,000
Front End Loader	400	0.68	1	272	8	2,176	60	130,560
Tug Boat	1,200	0.20	1	240	8	1,920	60	115,200
Secondary Engine	150	0.50	1	75	8	600	60	36,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.20	1	500	4	2,000	60	120,000
Secondary Engine	400	0.50	1	200	4	800	60	48,000
Crew/Survey Boat	400	0.30	1	120	8	960	60	57,600
Secondary Engine	80	0.50	1	40	8	320	60	19,200

Table A.4.1-Alt 2-75. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	36	19,014
Crane - 200 Ton	335	0.43	1	144	8	1,152	36	41,905
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	36	58,909
Piledriving Hammer	211	0.50	1	106	8	844	36	30,691
Loader-Wheel	300	0.30	1	90	8	720	36	26,182
Jet Pump	33	0.74	1	24	8	195	36	7,104
End Dump Truck	310	0.25	1	78	8	620	36	22,320
Truck-Flatbed	230	0.25	1	58	8	460	36	16,560
Truck-Lowboy	350	0.25	1	88	8	700	36	25,200
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	42	48,017
Derrick Barge	380	0.43	1	163	8	1,307	42	54,467
Secondary Engine	195	0.50	1	98	8	780	42	32,760
Piledriving Hammer	211	0.50	1	106	8	844	42	35,167
End Dump Truck	310	0.25	1	78	8	620	42	26,040
Tugboat	1,000	0.50	1	500	8	4,000	42	166,667
Secondary Engine	100	0.50	1	50	8	400	42	16,800
Truck-Flatbed	230	0.25	1	58	8	460	42	19,320
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	175	341,544
Loader-Wheel	180	0.30	1	54	8	432	175	75,600
Hydraulic Crane	152	0.43	1	65	8	523	175	91,504
Crane - 150 Ton	335	0.43	1	144	8	1,152	175	201,670
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	175	91,504
Crane - 150 Ton	335	0.43	1	144	8	1,152	175	201,670
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	175	201,670
Secondary Engine	107	0.50	1	54	8	428	175	74,900
Concrete Pump	210	0.74	1	155	8	1,243	175	217,560
Concrete Trucks	285	0.25	5	321	8	2,565	175	448,875
Sandblaster w/air compressor	50	0.00	1	0	8	0	175	0
Truck-Flatbed	230	0.25	1	58	8	460	175	80,500
Tugboat	1,000	0.20	1	200	8	1,600	175	280,000
Secondary Engine	100	0.40	1	40	8	320	175	56,000
Concrete Saw	35	0.10	1	4	8	28	175	4,900
Truck Crane - 65 ton	365	0.20	1	73	8	584	175	102,200
Boom Truck	350	0.20	1	70	8	560	175	98,000

Table A.4.1-Alt 2-76. Activity Data - CY Development - POLB Middle Harbor Alt 2 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	21	12,791
Grader	215	0.40	1	86	8	688	21	14,706
Roller	151	0.40	3	181	8	1,450	21	30,985
Vibration Roller	154	0.40	3	185	8	1,478	21	31,601
Water Truck	210	0.30	1	63	8	504	21	10,773
Road Sweeper	190	0.40	1	76	8	608	21	12,996

Table A.4.1-Alt 2-77. Activity Data -Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S2

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	20	0
Secondary Engine	500	0.00	1	0	24	0	20	0
Bottom Dump Scow	250	0.05	1	13	24	300	20	6,000
Tug Boat	2,500	0.30	1	750	6	4,500	20	90,000
Secondary Engine	400	0.25	1	100	6	600	20	12,000
Work Tug	750	0.20	1	150	12	1,800	20	36,000
Secondary Engine	150	0.25	1	38	12	450	20	9,000
Crew/Survey Boat	400	0.30	1	120	24	2,880	20	57,600
Secondary Engine	80	0.50	1	40	24	960	20	19,200

Table A.4.1-Alt 2-78. Total Construction Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.02	0.06	0.21	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.03	0.12	0.39	0.00	0.02	0.02	0.02
Excavator	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Subtotal	0.08	0.33	1.11	0.00	0.06	0.06	0.06
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.03	0.08	0.00	0.01	0.01	0.01
Excavator	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
End Dump Truck	0.04	0.17	0.55	0.00	0.03	0.03	0.03
Subtotal	0.08	0.32	1.08	0.00	0.06	0.06	0.06
WHARF DEMOLITION MARINE							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Work Tug	0.02	0.15	0.40	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Hydra-Crane	0.01	0.03	0.08	0.00	0.01	0.01	0.01
Excavator	0.03	0.11	0.36	0.00	0.02	0.02	0.02
Flatbed Truck	0.01	0.02	0.09	0.00	0.00	0.00	0.00
End Dump Truck	0.03	0.12	0.41	0.00	0.02	0.02	0.02
Subtotal	0.13	0.68	1.99	0.00	0.10	0.10	0.09

Table A.4.1-Alt 2-79. Total Construction Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Flatbed Truck	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.01	0.03	0.11	0.00	0.01	0.01	0.01

Table A.4.1-Alt 2-80. Total Construction Emissions - Excavation Fronting E25 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat	0.03	0.28	0.76	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Work Tug	0.01	0.11	0.30	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.07	0.62	2.00	0.05	0.08	0.08	0.07

Table A.4.1-Alt 2-81. Total Construction Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.03	0.18	0.38	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Front End Loader	0.03	0.12	0.40	0.00	0.02	0.02	0.02
Tug Boat	0.03	0.24	0.64	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.03	0.25	0.67	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.15	1.04	3.05	0.03	0.13	0.13	0.12

Table A.4.1-Alt 2-82. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Crane - 200 Ton	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.03	0.09	0.00	0.01	0.01	0.00
Loader-Wheel	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Jet Pump	0.00	0.01	0.04	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.02	0.07	0.00	0.00	0.00	0.00
Truck-Flatbed	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Truck-Lowboy	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Subtotal	0.06	0.23	0.78	0.00	0.04	0.04	0.04
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Derrick Barge	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Secondary Engine	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Piledriving Hammer	0.01	0.03	0.11	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Tugboat	0.04	0.34	0.93	0.00	0.03	0.03	0.03
Secondary Engine	0.00	0.04	0.06	0.00	0.01	0.01	0.01
Truck-Flatbed	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Subtotal	0.09	0.58	1.66	0.00	0.07	0.07	0.06
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.08	0.32	1.05	0.00	0.06	0.06	0.05
Loader-Wheel	0.02	0.06	0.23	0.00	0.01	0.01	0.01
Hydraulic Crane	0.02	0.09	0.28	0.00	0.02	0.02	0.02
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Subtotal	0.16	0.65	2.19	0.00	0.12	0.12	0.11
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.02	0.09	0.28	0.00	0.02	0.02	0.02
Crane - 150 Ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Crane Barge - 150 ton	0.04	0.19	0.62	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.20	0.27	0.00	0.02	0.02	0.02
Concrete Pump	0.05	0.18	0.67	0.00	0.04	0.04	0.03
Concrete Trucks	0.10	0.42	1.39	0.00	0.07	0.07	0.07
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.07	0.25	0.00	0.01	0.01	0.01
Tugboat	0.06	0.58	1.57	0.00	0.05	0.05	0.04
Secondary Engine	0.01	0.15	0.20	0.00	0.02	0.02	0.02
Concrete Saw	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.02	0.09	0.32	0.00	0.02	0.02	0.02
Boom Truck	0.02	0.09	0.30	0.00	0.02	0.02	0.01
Subtotal	0.41	2.23	6.52	0.01	0.34	0.34	0.31

Table A.4.1-Alt 2-83. Total Construction Emissions - DCY Development - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Grader	0.00	0.01	0.05	0.00	0.00	0.00	0.00
Roller	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Vibration Roller	0.01	0.03	0.10	0.00	0.01	0.01	0.01
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Road Sweeper	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Subtotal	0.03	0.10	0.35	0.00	0.02	0.02	0.02

Table A.4.1-Alt 2-84. Total Construction Emissions - Dredge to -55 ft - POLB Middle Harbor Alt 2 P1/S2

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Tug Boat	0.02	0.19	0.50	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Work Tug	0.01	0.07	0.20	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.08	0.47	0.03	0.02	0.02	0.02
Secondary Engine	0.00	0.05	0.07	0.00	0.01	0.01	0.01
Subtotal	0.05	0.41	1.33	0.03	0.05	0.05	0.05

Table A.4.1-Alt 2-85. Total Construction Emissions - POLB Middle Harbor Alternative 2 Phase 1/Stage 2

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolish Existing Facilities							
Sheet Pile Bulkhead Demolition	0	0	1	0	0	0	0
Wharf Demolition Landside	0	0	1	0	0	0	0
Wharf Demolition Marine	0	1	2	0	0	0	0
Construct New Bulkhead (Install Transition Bulkhead)							
Retaining Bulkhead Construction	0	0	0	0	0	0	0
Excavation Fronting E25 and Dispose Slip 1							
Clamshell Dredging	0	1	2	0	0	0	0
Construct New Armor Slope							
Rock Placement, Push Off & Tub & Orange Peels	0	1	3	0	0	0	0
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0	0	1	0	0	0	0
Drive 24-In Octagonal Piles - Water	0	1	2	0	0	0	0
Drive Piles - Misc Activities	0	1	2	0	0	0	0
Reinforced Concrete Wharf	0	2	7	0	0	0	0
CY Development							
New Container Yard Construction - Paving	0	0	0	0	0	0	0
Dredge to -55 ft							
Clamshell Dredging	0	0	1	0	0	0	0
Other Peak Daily Emissions							
Fugitive Emissions	-	-	-	-	-	-	-
Commuter Emissions							
Dredging Activities							
Dredging Activities	0	1	3	0	0	0	0
Peak Daily Emissions	0	1	4	0	0	0	0
Mitigated Peak Daily Emissions (1)	0	1	4	0	0	0	0
SCAQMD Daily Significance Thresholds	75	550	100	150	NA	150	55

Table A.4.1-Alt 2-86. Activity Data - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	120	53,664
Excavator	428	0.57	1	244	8	1,952	120	234,202
Flatbed Truck	230	0.25	1	58	8	460	120	55,200
End Dump Truck	310	0.30	4	372	8	2,976	120	357,120
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	120	247,680
Secondary Engine	200	0.50	1	100	8	800	120	96,000
Work Tug	750	0.20	1	150	8	1,200	120	144,000
Secondary Engine	150	0.50	1	75	8	600	120	72,000
Hydra-Crane	130	0.43	1	56	8	447	120	53,664
Excavator	428	0.57	1	244	8	1,952	120	234,202
Flatbed Truck	230	0.25	1	58	8	460	120	55,200
End Dump Truck	310	0.30	3	279	8	2,232	120	267,840
SHEET PILE BULKHEAD DEMOLITION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	120	138,288
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	120	252,000
Excavator	428	0.57	1	244	8	1,952	120	234,202
Flatbed Truck	230	0.25	1	58	8	460	120	55,200
Welding Machine	26	0.50	1	13	8	104	120	12,480
Generator	13	0.74	1	10	8	77	120	9,235

Table A.4.1-Alt 2-87. Activity Data - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	12	13,829
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	12	25,200
Flatbed Truck	230	0.25	1	58	8	460	12	5,520
Welding Machine	26	0.45	1	12	8	94	12	1,123
Generator	13	0.74	1	10	8	77	12	924

Table A.4.1-Alt 2-88. Activity Data - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	27	0
Secondary Engine	500	0.00	1	0	24	0	27	0
Bottom Dump Scow	250	0.05	1	13	24	300	27	8,100
Tug Boat	2,500	0.30	1	750	6	4,500	27	121,500
Secondary Engine	400	0.25	1	100	6	600	27	16,200
Work Tug	750	0.20	1	150	12	1,800	27	48,600
Secondary Engine	150	0.25	1	38	12	450	27	12,150
Crew/Survey Boat	400	0.30	1	120	24	2,880	27	77,760
Secondary Engine	80	0.50	1	40	24	960	27	25,920

Table A.4.1-Alt 2-89. Activity Data - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	90	185,760
Secondary Engine	200	0.50	1	100	8	800	90	72,000
Front End Loader	400	0.68	1	272	8	2,176	90	195,840
Tug Boat	1,200	0.20	1	240	8	1,920	90	172,800
Secondary Engine	150	0.50	1	75	8	600	90	54,000
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	90	639,450
Secondary Engine	400	0.50	1	200	6	1,160	90	104,400
Crew/Survey Boat	400	0.30	1	120	8	960	90	86,400
Secondary Engine	80	0.50	1	40	8	320	90	28,800

Table A.4.1-Alt 2-90. Activity Data - Wharf Construction - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	67	34,859
Crane - 200 Ton	335	0.43	1	144	8	1,152	67	76,827
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	67	108,000
Piledriving Hammer	211	0.50	1	106	8	844	67	56,267
Loader-Wheel	300	0.30	1	90	8	720	67	48,000
Jet Pump	33	0.74	1	24	8	195	67	13,024
End Dump Truck	310	0.25	1	78	8	620	67	41,540
Truck-Flatbed	230	0.25	1	58	8	460	67	30,820
Truck-Lowboy	350	0.25	1	88	8	700	67	46,900
DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	76	88,031
Derrick Barge	380	0.43	1	163	8	1,307	76	99,856
Secondary Engine	195	0.50	1	98	8	780	76	59,280
Piledriving Hammer	211	0.50	1	106	8	844	76	64,472
End Dump Truck	310	0.25	1	78	8	620	76	47,120
Tugboat	1,000	0.50	1	500	8	4,000	76	305,556
Secondary Engine	100	0.50	1	50	8	400	76	30,400
Truck-Flatbed	230	0.25	1	58	8	460	76	34,960
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	245	478,162
Loader-Wheel	180	0.30	1	54	8	432	245	105,840
Hydraulic Crane	152	0.43	1	65	8	523	245	128,106
Crane - 150 Ton	335	0.43	1	144	8	1,152	245	282,338
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	245	128,106
Crane - 150 Ton	335	0.43	1	144	8	1,152	245	282,338
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	245	282,338
Secondary Engine	107	0.50	1	54	8	428	245	104,860
Concrete Pump	210	0.74	1	155	8	1,243	245	304,584
Concrete Trucks	285	0.25	5	321	8	2,565	245	628,425
Sandblaster w/air compressor	50	0.00	1	0	8	0	245	0
Truck-Flatbed	230	0.25	1	58	8	460	245	112,700
Tugboat	1,000	0.20	1	200	8	1,600	245	392,000
Secondary Engine	100	0.40	1	40	8	320	245	78,400
Concrete Saw	35	0.10	1	4	8	28	245	6,860
Truck Crane - 65 ton	365	0.20	1	73	8	584	245	143,080
Boom Truck	350	0.20	1	70	8	560	245	137,200

Table A.4.1-Alt 2-91. Activity Data - Construct E27 Bulkhead - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	40	46,096
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	40	84,000
Flatbed Truck	230	0.25	1	58	8	460	40	18,400
Welding Machine	26	0.45	1	12	8	94	40	3,744
Generator	13	0.74	1	10	8	77	40	3,078

Table A.4.1-Alt 2-92. Activity Data - CY Development - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
NEW CONTAINER YARD UTILITIES								
Pipelay	300	0.50	1	150	8	1,200		0
Auger	125	0.50	1	63	8	500		0
Crane	130	0.43	1	56	8	447		0
Grader	215	0.61	3	393	8	3,148		0
End Dump Truck	310	0.25	1	78	8	620		0
Flat Bed Truck	230	0.25	2	115	8	920		0
Concrete Truck	250	0.60	4	600	8	4,800		0
Front End Loader	400	0.40	2	320	8	2,560		0
Trencher	200	0.20	1	40	8	320		0
NEW CONTAINER YARD CONSTRUCTION - PAVING								
AC Paver	187	0.40	1	75	8	598	105	62,832
Grader	215	0.40	1	86	8	688	105	72,240
Roller	151	0.40	3	181	8	1,450	105	152,208
Vibration Roller	154	0.40	3	185	8	1,478	105	155,232
Water Truck	210	0.30	1	63	8	504	105	52,920
Road Sweeper	190	0.40	1	76	8	608	105	63,840
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL								
Flat Bed Truck	230	0.25	1	58	8	460		0
Truck Crane	130	0.20	1	26	8	208		0
Auger	125	0.50	1	63	8	500		0

Table A.4.1-Alt 2-93. Activity Data - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Total Hp-Hrs
CLAMSHELL DREDGING								
Clamshell Dredge	2,500	0.00	1	0	24	0	30	0
Secondary Engine	500	0.00	1	0	24	0	30	0
Bottom Dump Scow	250	0.05	1	13	24	300	30	9,000
Tug Boat	2,500	0.30	1	750	6	4,500	30	135,000
Secondary Engine	400	0.25	1	100	6	600	30	18,000
Work Tug	750	0.20	1	150	12	1,800	30	54,000
Secondary Engine	150	0.25	1	38	12	450	30	13,500
Crew/Survey Boat	400	0.30	1	120	24	2,880	30	86,400
Secondary Engine	80	0.50	1	40	24	960	30	28,800

Table A.4.1-Alt 2-94. Total Construction Emissions - Demolish Existing Facilities - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
WHARF DEMOLITION LANDSIDE							
Hydra-Crane	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Excavator	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Flatbed Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
End Dump Truck	0.08	0.33	1.10	0.00	0.06	0.06	0.05
Subtotal	0.15	0.64	2.16	0.00	0.12	0.12	0.11
WHARF DEMOLITION MARINE							
Derrick Barge	0.05	0.36	0.76	0.00	0.04	0.04	0.04
Secondary Engine	0.02	0.08	0.30	0.00	0.02	0.02	0.01
Work Tug	0.03	0.30	0.81	0.00	0.02	0.02	0.02
Secondary Engine	0.02	0.07	0.22	0.00	0.02	0.02	0.02
Hydra-Crane	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Excavator	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Flatbed Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
End Dump Truck	0.06	0.25	0.83	0.00	0.04	0.04	0.04
Subtotal	0.26	1.37	3.97	0.01	0.20	0.20	0.19
SHEET PILE BULKHEAD DEMOLITION							
Crane - 100 Ton	0.03	0.13	0.43	0.00	0.02	0.02	0.02
Vibratory Hammer & Power Pack	0.06	0.23	0.78	0.00	0.04	0.04	0.04
Excavator	0.05	0.22	0.72	0.00	0.04	0.04	0.04
Flatbed Truck	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Welding Machine	0.01	0.02	0.07	0.00	0.01	0.01	0.01
Generator	0.01	0.02	0.05	0.00	0.00	0.00	0.00
Subtotal	0.16	0.66	2.22	0.00	0.12	0.12	0.11

Table A.4.1-Alt 2-95. Total Construction Emissions - Construct New Bulkhead - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Vibratory Hammer & Power Pack	0.01	0.02	0.08	0.00	0.00	0.00	0.00
Flatbed Truck	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Generator	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Subtotal	0.01	0.04	0.15	0.00	0.01	0.01	0.01

Table A.4.1-Alt 2-96. Total Construction Emissions - Excavation Fronting E26 and Dispose Slip 1 - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat	0.03	0.25	0.68	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.05	0.00	0.00	0.00	0.00
Work Tug	0.01	0.10	0.27	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.01	0.11	0.64	0.04	0.03	0.03	0.02
Secondary Engine	0.01	0.07	0.09	0.00	0.01	0.01	0.01
Subtotal	0.07	0.56	1.80	0.04	0.07	0.07	0.06

Table A.4.1-Alt 2-97. Total Construction Emissions - Construct New Armor Slope - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS							
Derrick Barge	0.04	0.27	0.57	0.00	0.03	0.03	0.03
Secondary Engine	0.02	0.06	0.22	0.00	0.01	0.01	0.01
Front End Loader	0.04	0.18	0.60	0.00	0.03	0.03	0.03
Tug Boat	0.04	0.36	0.97	0.00	0.03	0.03	0.03
Secondary Engine	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Tug Boat Rock Transport - Within 3 nm	0.14	1.32	3.58	0.00	0.11	0.11	0.10
Secondary Engine	0.02	0.10	0.32	0.00	0.02	0.02	0.02
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.34	2.53	7.25	0.05	0.28	0.28	0.26

Table A.4.1-Alt 2-98. Total Construction Emissions - Wharf Construction - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
DRIVE 24-IN OCTAGONAL PILES - LAND							
Hydraulic Crane	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Crane - 200 Ton	0.02	0.07	0.24	0.00	0.01	0.01	0.01
Drill/Power Pack HPSI	0.02	0.10	0.33	0.00	0.02	0.02	0.02
Piledriving Hammer	0.01	0.05	0.17	0.00	0.01	0.01	0.01
Loader-Wheel	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Jet Pump	0.01	0.02	0.07	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.04	0.13	0.00	0.01	0.01	0.01
Truck-Flatbed	0.01	0.03	0.10	0.00	0.01	0.01	0.00
Truck-Lowboy	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Subtotal	0.11	0.42	1.44	0.00	0.08	0.08	0.08
DRIVE 24-IN OCTAGONAL PILES - WATER							
Crane - 200 Ton	0.02	0.08	0.27	0.00	0.01	0.01	0.01
Derrick Barge	0.02	0.09	0.31	0.00	0.02	0.02	0.02
Secondary Engine	0.01	0.05	0.18	0.00	0.01	0.01	0.01
Piledriving Hammer	0.01	0.05	0.20	0.00	0.01	0.01	0.01
End Dump Truck	0.01	0.04	0.15	0.00	0.01	0.01	0.01
Tugboat	0.07	0.63	1.71	0.00	0.05	0.05	0.05
Secondary Engine	0.01	0.08	0.11	0.00	0.01	0.01	0.01
Truck-Flatbed	0.01	0.03	0.11	0.00	0.01	0.01	0.01
Subtotal	0.16	1.06	3.03	0.00	0.13	0.13	0.12
DRIVE PILES - MISC ACTIVITIES							
Excavator	0.11	0.44	1.48	0.00	0.08	0.08	0.07
Loader-Wheel	0.02	0.09	0.33	0.00	0.02	0.02	0.02
Hydraulic Crane	0.03	0.12	0.40	0.00	0.03	0.03	0.03
Crane - 150 Ton	0.06	0.26	0.87	0.00	0.05	0.05	0.04
Subtotal	0.22	0.91	3.07	0.00	0.17	0.17	0.16
REINFORCED CONCRETE WHARF							
Hydraulic Crane	0.03	0.12	0.40	0.00	0.03	0.03	0.03
Crane - 150 Ton	0.06	0.26	0.87	0.00	0.05	0.05	0.04
Crane Barge - 150 ton	0.06	0.26	0.87	0.00	0.05	0.05	0.04
Secondary Engine	0.02	0.27	0.38	0.00	0.03	0.03	0.03
Concrete Pump	0.07	0.25	0.94	0.00	0.05	0.05	0.05
Concrete Trucks	0.14	0.58	1.94	0.00	0.10	0.10	0.10
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.09	0.35	0.00	0.02	0.02	0.02
Tugboat	0.09	0.81	2.19	0.00	0.06	0.06	0.06
Secondary Engine	0.02	0.20	0.29	0.00	0.03	0.03	0.02
Concrete Saw	0.00	0.01	0.04	0.00	0.00	0.00	0.00
Truck Crane - 65 ton	0.03	0.13	0.44	0.00	0.02	0.02	0.02
Boom Truck	0.03	0.13	0.42	0.00	0.02	0.02	0.02
Subtotal	0.58	3.13	9.13	0.01	0.47	0.47	0.44

Table A.4.1-Alt 2-99. Total Construction Emissions - Construct E27 Bulkhead - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
RETAINING BULKHEAD CONSTRUCTION							
Crane - 100 Ton	0.01	0.04	0.14	0.00	0.01	0.01	0.01
Vibratory Hammer & Power Pack	0.02	0.08	0.26	0.00	0.01	0.01	0.01
Flatbed Truck	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Welding Machine	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Generator	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Subtotal	0.04	0.15	0.50	0.00	0.03	0.03	0.03

Table A.4.1-Alt 2-100. Total Construction Emissions - CY Development - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
NEW CONTAINER YARD UTILITIES							
Pipelayler	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auger	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Front End Loader	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trencher	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00						
NEW CONTAINER YARD CONSTRUCTION - PAVING							
AC Paver	0.01	0.05	0.19	0.00	0.01	0.01	0.01
Grader	0.02	0.06	0.22	0.00	0.01	0.01	0.01
Roller	0.03	0.15	0.47	0.00	0.04	0.04	0.03
Vibration Roller	0.03	0.15	0.48	0.00	0.04	0.04	0.03
Water Truck	0.01	0.04	0.16	0.00	0.01	0.01	0.01
Road Sweeper	0.01	0.05	0.20	0.00	0.01	0.01	0.01
Subtotal	0.12	0.50	1.73	0.00	0.12	0.12	0.11
NEW CONTAINER YARD CONSTRUCTION - ELECTRICAL							
Flat Bed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Auger	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00						

Table A.4.1-Alt 2-101. Total Construction Emissions - Hydraulic Dredging to -55ft - POLB Middle Harbor Alt 2 P1/S3

Location/Equipment Type	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
CLAMSHELL DREDGING							
Clamshell Dredge	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Engine	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Dump Scow	0.00	0.01	0.03	0.00	0.00	0.00	0.00
Tug Boat	0.03	0.28	0.76	0.00	0.02	0.02	0.02
Secondary Engine	0.00	0.02	0.06	0.00	0.00	0.00	0.00
Work Tug	0.01	0.11	0.30	0.00	0.01	0.01	0.01
Secondary Engine	0.00	0.04	0.05	0.00	0.00	0.00	0.00
Crew/Survey Boat	0.02	0.12	0.71	0.04	0.03	0.03	0.03
Secondary Engine	0.01	0.08	0.10	0.00	0.01	0.01	0.01
Subtotal	0.07	0.64	2.00	0.05	0.08	0.08	0.07

Table A.4.1-Alt 2-102. Total Emissions - POLB Middle Harbor Project Alternative 1 Phase 1/Stage 3

Activity	Tons						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Demolish Existing Facilities							
Wharf Demolition Landside	0	1	2	0	0	0	0
Wharf Demolition Marine	0	1	4	0	0	0	0
Sheet Pile Bulkhead Demolition	0	1	2	0	0	0	0
Construct New Bulkhead							
Retaining Bulkhead Construction	0	0	0	0	0	0	0
Excavation Fronting E26 and Dispose Slip 1							
Clamshell Dredging	0	1	2	0	0	0	0
Construct New Armor Slope							
Rock Placement, Push Off & Tub & Orange Peels	0	3	7	0	0	0	0
Wharf Construction							
Drive 24-In Octagonal Piles - Land	0	0	1	0	0	0	0
Drive 24-In Octagonal Piles - Water	0	1	3	0	0	0	0
Drive Piles - Misc Activities	0	1	3	0	0	0	0
Reinforced Concrete Wharf	1	3	9	0	0	0	0
Construct E27 Bulkhead							
Retaining Bulkhead Construction	0	0	0	0	0	0	0
CY Development							
Vibratory Hammer & Power Pack	0	0	0	0	0	0	0
Flatbed Truck	0	1	2	0	0	0	0
Welding Machine	0	0	0	0	0	0	0
Hydraulic Dredge to -55ft							
Clamshell Dredging	0	1	2	0	0	0	0
Other Peak Daily Emissions							
Fugitive Dust	-	-	-	-			
Commuter Emissions							
Dredging Activities							
Dredging Activities	0	1	4	0	0	0	0.1
Peak Daily Emissions	1	6	19	0	1	1	1
Mitigated Peak Daily Emissions	1	6	19	0	1	1	1
SCAQMD Daily Significance Thresholds	75	550	100	150	NA	150	55

Table A.4.1-Alt 2-103. Activity Data - Demo Existing F1-4, F6 Wharf - POLB Middle Harbor Alt 2 P1/S6a

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	4	372	8	2,976	182	541,632

Table A.4.1-Alt 2-104. Activity Data - Roll Surcharge - POLB Middle Harbor Alt 2 P1/S6a

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
ROLL SURCHARGE								
Scrapers	475	0.60	9	2,565	8	20,520	42	861,840
Dozers	285	0.35	2	200	8	1,596	42	67,032
Loader	170	0.30	3	153	8	1,224	42	51,408
End Dump Truck	310	0.25	6	465	8	3,720	42	156,240
Water Truck	310	0.25	1	78	8	620	42	26,040

Table A.4.1-Alt 2-105. Daily Emissions - Demo Existing F1-4, F6 Wharf - POLB Middle Harbor Alt 2 P1/S6a

Location/Equipment Type	Tons							Total Tons DPM
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02	3.59
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05	10.69
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01	2.52
End Dump Truck	0.12	0.50	1.67	0.00	0.09	0.09	0.08	16.30
Subtotal	0.23	0.98	3.28	0.01	0.18	0.18	0.17	33.10

Table A.4.1-Alt 2-106. Daily Emissions - Roll Surcharge - POLB Middle Harbor Alt 2 P1/S6a

Location/Equipment Type	Tons							Total Tons
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
ROLL SURCHARGE								
Scrapers	0.19	0.80	2.66	0.00	0.14	0.14	0.13	5.99
Dozers	0.01	0.06	0.21	0.00	0.01	0.01	0.01	0.47
Loader	0.01	0.05	0.16	0.00	0.01	0.01	0.01	0.52
End Dump Truck	0.03	0.14	0.48	0.00	0.03	0.03	0.02	1.09
Water Truck	0.01	0.02	0.08	0.00	0.00	0.00	0.00	0.18
Subtotal	0.26	1.08	3.59	0.01	0.20	0.20	0.18	8.24

Table A.4.1-Alt 2-107. Daily Emissions - POLB Middle Harbor Project - Alternative 2 Phase 1/Stage 6a

Activity	Tons							Total Tons
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
Demolition								
Wharf Demolition Landside	0	0	0	0	0	0	0	0
Railyard								
Intermodal Yard Construction	0	0	0	0	0	0	0	0
Container Yard Development (F1 - F4)								
New Container Yard Utilities	0	0	0	0	0	0	0	0
New Container Yard Construction - Paving	0	0	0	0	0	0	0	0
New Container Yard Construction - Electrical	0	0	0	0	0	0	0	0
Demo Existing F1-4, F6 Wharf								
Wharf Demolition Landside	0	1	3	0	0	0	0	33
Wharf Demolition Marine	0	0	0	0	0	0	0	0
Construct East Basin Retaining Dike								
Rock Placement, Push Off & Tub & Orange Peels	0	0	0	0	0	0	0	0
Slip/Basin Fill & Surcharge East								
Cutter Suction Dredging- Spill Barge (No Booster)	0	0	0	0	0	0	0	0
Cutter Suction Dredging- Land Disposal (No Booster)	0	0	0	0	0	0	0	0
Wick Drains	0	0	0	0	0	0	0	0
Roll Surcharge								
Roll Surcharge	0	1	4	0	0	0	0	8
Other Peak Daily Emissions								
Fugitive Dust	-	-	-	-	0	0.0	0	
Commuter Emissions								
Dredging Activities								
Dredging Activities	0	0	0	0	0	0	0	0
Peak Daily Emissions	0	1	3	0	0	0	0	0
Mitigated Peak Daily Emissions (1)	0	1	3	0	0	0	0	0
SCAQMD Daily Significance Thresholds	75	550	100	150	NA	150	55	

Table A.4.1-Alt 2-108. Activity Data - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 2 P1/S6a

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	4	372	8	2,976	182	541,632
WHARF DEMOLITION MARINE								
Derrick Barge	600	0.43	1	258	8	2,064	182	375,648
Secondary Engine	200	0.50	1	100	8	800	182	145,600
Work Tug	750	0.20	1	150	8	1,200	182	218,400
Secondary Engine	150	0.50	1	75	8	600	182	109,200
Hydra-Crane	130	0.43	1	56	8	447	182	81,390
Excavator	428	0.57	1	244	8	1,952	182	355,206
Flatbed Truck	230	0.25	1	58	8	460	182	83,720
End Dump Truck	310	0.30	3	279	8	2,232	182	406,224

Table A.4.1-Alt 2-109. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (1 of 2)

<i>Location/Equipment Type</i>	<i>Power Rating (Hp)</i>	<i>Load Factor</i>	<i># Active</i>	<i>Hourly Hp-Hrs</i>	<i>Hours Per Day</i>	<i>Daily Hp-Hrs</i>	<i>Work Days</i>	<i>Total Hp-Hrs</i>
LAND EX								
Excavator	428	0.57	1	244	8	1,952	168	327,882
Loader	170	0.68	1	116	8	925	168	155,366
End Dump Truck	310	0.25	4	310	8	2,480	168	416,640
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	600	0.43	1	258	8	2,064	168	346,752
Secondary Engine	200	0.50	1	100	8	800	168	134,400
Front End Loader	400	0.68	1	272	8	2,176	168	365,568
Tug Boat	1,200	0.20	1	240	8	1,920	168	322,560
Secondary Engine	150	0.50	1	75	8	600	168	100,800
Tug Boat Rock Transport - Within 3 nm	2,500	0.49	1	1,225	6	7,105	168	1,193,640
Secondary Engine	400	0.50	1	200	6	1,160	168	194,880
Crew/Survey Boat	400	0.30	1	120	8	960	168	161,280
Secondary Engine	80	0.50	1	40	8	320	168	53,760
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	335	0.43	1	144	8	1,152	168	193,603
Vibratory Hammer & Power Pack	350	0.75	1	263	8	2,100	168	352,800
Flatbed Truck	230	0.25	1	58	8	460	168	77,280
Welding Machine	26	0.45	1	12	8	94	168	15,725
Generator	13	0.74	1	10	8	77	168	12,929
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	152	0.43	1	65	8	523	126	65,883
Crane - 200 Ton	335	0.43	1	144	8	1,152	126	145,202
Drill/Power Pack HPSI	270	0.75	1	203	8	1,620	126	204,120
Piledriving Hammer	211	0.50	1	106	8	844	126	106,344
Loader-Wheel	300	0.30	1	90	8	720	126	90,720
Jet Pump	33	0.74	1	24	8	195	126	24,615
End Dump Truck	310	0.25	1	78	8	620	126	78,120
Truck-Flatbed	230	0.25	1	58	8	460	126	57,960
Truck-Lowboy	350	0.25	1	88	8	700	126	88,200

Table A.4.1-Alt 2-110. Activity Data - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (2 of 2)

DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	335	0.43	1	144	8	1,152	126	145,202
Derrick Barge	380	0.43	1	163	8	1,307	126	164,707
Secondary Engine	195	0.50	1	98	8	780	126	98,280
Piledriving Hammer	211	0.50	1	106	8	844	126	106,344
End Dump Truck	310	0.25	1	78	8	620	126	78,120
Tugboat	1,000	0.50	1	500	8	4,000	126	504,000
Secondary Engine	100	0.50	1	50	8	400	126	50,400
Truck-Flatbed	230	0.25	1	58	8	460	126	57,960
DRIVE PILES - MISC ACTIVITIES								
Excavator	428	0.57	1	244	8	1,952	126	245,912
Loader-Wheel	180	0.30	1	54	8	432	126	54,432
Hydraulic Crane	152	0.43	1	65	8	523	126	65,883
Crane - 150 Ton	335	0.43	1	144	8	1,152	126	145,202
REINFORCED CONCRETE WHARF								
Hydraulic Crane	152	0.43	1	65	8	523	210	109,805
Crane - 150 Ton	335	0.43	1	144	8	1,152	210	242,004
Crane Barge - 150 ton	335	0.43	1	144	8	1,152	210	242,004
Secondary Engine	107	0.50	1	54	8	428	210	89,880
Concrete Pump	210	0.74	1	155	8	1,243	210	261,072
Concrete Trucks	285	0.25	5	321	8	2,565	210	538,650
Sandblaster w/air compressor	50	0.00	1	0	8	0	210	0
Truck-Flatbed	230	0.25	1	58	8	460	210	96,600
Tugboat	1,000	0.20	1	200	8	1,600	210	336,000
Secondary Engine	100	0.40	1	40	8	320	210	67,200
Concrete Saw	35	0.10	1	4	8	28	210	5,880
Truck Crane - 65 ton	365	0.20	1	73	8	584	210	122,640
Boom Truck	350	0.20	1	70	8	560	210	117,600

Table A.4.1-Alt 2-111. Total Emissions - Demo Existing F8-10 Wharf - POLB Middle Harbor Alt 2 P1/S6a

Location/Equipment Type	Tons							Total Tons DPM
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
WHARF DEMOLITION LANDSIDE								
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02	3.59
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05	10.69
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01	2.52
End Dump Truck	0.12	0.50	1.67	0.00	0.09	0.09	0.08	16.30
Subtotal	0.23	0.98	3.28	0.01	0.18	0.18	0.17	33.10
WHARF DEMOLITION MARINE								
Derrick Barge	0.08	0.55	1.16	0.00	0.06	0.06	0.06	11.30
Secondary Engine	0.03	0.12	0.45	0.00	0.02	0.02	0.02	4.38
Work Tug	0.05	0.45	1.22	0.00	0.04	0.04	0.03	6.54
Secondary Engine	0.02	0.10	0.34	0.00	0.03	0.03	0.02	4.82
Hydra-Crane	0.02	0.08	0.25	0.00	0.02	0.02	0.02	3.59
Excavator	0.08	0.33	1.10	0.00	0.06	0.06	0.05	10.69
Flatbed Truck	0.02	0.07	0.26	0.00	0.01	0.01	0.01	2.52
End Dump Truck	0.09	0.38	1.25	0.00	0.07	0.07	0.06	12.22
Subtotal	0.39	2.08	6.03	0.01	0.31	0.31	0.28	56.07

Table A.4.1-Alt 2-112. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (1 of 2)

Location/Equipment Type	Tons							Total Tons DPM
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
LAND EX								
Excavator	0.07	0.30	1.01	0.00	0.05	0.05	0.05	9.11
Loader	0.03	0.15	0.48	0.00	0.04	0.04	0.03	6.33
End Dump Truck	0.09	0.39	1.29	0.00	0.07	0.07	0.06	11.57
Subtotal	0.20	0.84	2.78	0.00	0.16	0.16	0.15	27.01
ROCK PLACEMENT, PUSH OFF & TUB & ORANGE PEELS								
Derrick Barge	0.08	0.51	1.07	0.00	0.06	0.06	0.05	9.63
Secondary Engine	0.03	0.11	0.41	0.00	0.02	0.02	0.02	3.73
Front End Loader	0.08	0.34	1.13	0.00	0.06	0.06	0.06	10.15
Tug Boat	0.07	0.66	1.80	0.00	0.05	0.05	0.05	8.92
Secondary Engine	0.02	0.10	0.31	0.00	0.02	0.02	0.02	4.11
Tug Boat Rock Transport - Within 3 nm	0.27	2.45	6.68	0.01	0.20	0.20	0.18	32.99
Secondary Engine	0.04	0.18	0.60	0.00	0.03	0.03	0.03	5.41
Crew/Survey Boat	0.03	0.23	1.33	0.08	0.05	0.05	0.05	8.96
Secondary Engine	0.01	0.14	0.20	0.00	0.02	0.02	0.02	2.99
Subtotal	0.63	4.72	13.53	0.10	0.52	0.52	0.48	86.89
RETAINING BULKHEAD CONSTRUCTION								
Crane - 100 Ton	0.04	0.18	0.60	0.00	0.03	0.03	0.03	5.38
Vibratory Hammer & Power Pack	0.08	0.33	1.09	0.00	0.06	0.06	0.05	9.80
Flatbed Truck	0.02	0.06	0.24	0.00	0.01	0.01	0.01	2.15
Welding Machine	0.01	0.03	0.09	0.00	0.01	0.01	0.01	1.31
Generator	0.01	0.02	0.07	0.00	0.01	0.01	0.01	1.08
Subtotal	0.16	0.62	2.08	0.00	0.12	0.12	0.11	19.71
DRIVE 24-IN OCTAGONAL PILES - LAND								
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01	2.01
Crane - 200 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02	3.03
Drill/Power Pack HPSI	0.05	0.19	0.63	0.00	0.03	0.03	0.03	4.25
Piledriving Hammer	0.02	0.09	0.33	0.00	0.02	0.02	0.02	2.22
Loader-Wheel	0.02	0.08	0.28	0.00	0.02	0.02	0.01	1.89
Jet Pump	0.02	0.04	0.14	0.00	0.01	0.01	0.01	1.54
End Dump Truck	0.02	0.07	0.24	0.00	0.01	0.01	0.01	1.63
Truck-Flatbed	0.01	0.05	0.18	0.00	0.01	0.01	0.01	1.21
Truck-Lowboy	0.02	0.08	0.27	0.00	0.01	0.01	0.01	1.84
Subtotal	0.20	0.80	2.72	0.00	0.16	0.16	0.14	19.61

Table A.4.1-Alt 2-112. Total Emissions - Construct Wharf, Armor, Fill - POLB Middle Harbor Alt 2 P1/S6a (2 of 2)

DRIVE 24-IN OCTAGONAL PILES - WATER								
Crane - 200 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02	3.03
Derrick Barge	0.04	0.15	0.51	0.00	0.03	0.03	0.03	3.43
Secondary Engine	0.02	0.08	0.30	0.00	0.02	0.02	0.01	2.05
Piledriving Hammer	0.02	0.09	0.33	0.00	0.02	0.02	0.02	2.22
End Dump Truck	0.02	0.07	0.24	0.00	0.01	0.01	0.01	1.63
Tugboat	0.11	1.04	2.82	0.00	0.08	0.08	0.08	10.45
Secondary Engine	0.01	0.13	0.18	0.00	0.02	0.02	0.02	2.10
Truck-Flatbed	0.01	0.05	0.18	0.00	0.01	0.01	0.01	1.21
Subtotal	0.27	1.74	5.01	0.01	0.21	0.21	0.19	26.10
DRIVE PILES - MISC ACTIVITIES								
Excavator	0.05	0.23	0.76	0.00	0.04	0.04	0.04	5.12
Loader-Wheel	0.01	0.05	0.17	0.00	0.01	0.01	0.01	1.13
Hydraulic Crane	0.01	0.06	0.20	0.00	0.02	0.02	0.01	2.01
Crane - 150 Ton	0.03	0.13	0.45	0.00	0.02	0.02	0.02	3.03
Subtotal	0.11	0.47	1.58	0.00	0.09	0.09	0.08	11.30
REINFORCED CONCRETE WHARF								
Hydraulic Crane	0.02	0.11	0.34	0.00	0.03	0.03	0.02	5.59
Crane - 150 Ton	0.05	0.22	0.75	0.00	0.04	0.04	0.04	8.40
Crane Barge - 150 ton	0.05	0.22	0.75	0.00	0.04	0.04	0.04	8.40
Secondary Engine	0.02	0.23	0.33	0.00	0.03	0.03	0.03	6.24
Concrete Pump	0.06	0.22	0.81	0.00	0.04	0.04	0.04	9.07
Concrete Trucks	0.12	0.50	1.66	0.00	0.09	0.09	0.08	18.70
Sandblaster w/air compressor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck-Flatbed	0.02	0.08	0.30	0.00	0.02	0.02	0.01	3.35
Tugboat	0.07	0.69	1.88	0.00	0.06	0.06	0.05	11.61
Secondary Engine	0.01	0.18	0.24	0.00	0.02	0.02	0.02	4.67
Concrete Saw	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.61
Truck Crane - 65 ton	0.03	0.11	0.38	0.00	0.02	0.02	0.02	4.26
Boom Truck	0.03	0.11	0.36	0.00	0.02	0.02	0.02	4.08
Subtotal	0.17	1.18	3.20	0.00	0.14	0.14	0.13	28.58

Table A.4.1-Alt 2-113. Total Emissions - POLB Middle Harbor Alternative 2 Phase1/Stage 6b

Activity	Tons							Total Tons DPM
	VOC	CO	NOx	SOx	PM	PM10	PM2.5	
Construction								
Building Construction	0	0	0	0	0	0	0	0
Dredge and Excavate at Quay Wall								
Clamshell Dredging	0	0	0	0	0	0	0	0
Demo Existing F8-10 Wharf								
Wharf Demolition Landside	0	1	3	0	0	0	0	33
Wharf Demolition Marine	0	2	6	0	0	0	0	56
Construct Wharf, Armor, Fill								
Land Ex	0	1	3	0	0	0	0	27
Rock Placement, Push Off & Tub & Orange Peels	1	5	14	0	1	1	0	87
Retaining Bulkhead Construction	0	1	2	0	0	0	0	20
Drive 24-In Octagonal Piles - Land	0	1	3	0	0	0	0	20
Drive 24-In Octagonal Piles - Water	0	2	5	0	0	0	0	26
Drive Piles - Misc Activities	0	0	2	0	0	0	0	11
Reinforced Concrete Wharf	0	1	3	0	0	0	0	29
Basin Fill and Surcharge West								
Cutter Suction Dredging- Spill Barge (No Booster)	0	0	0	0	0	0	0	0
Cutter Suction Dredging- Land Disposal (No Booster)	0	0	0	0	0	0	0	0
Wick Drains	0	0	0	0	0	0	0	0
Settlement Period								
Roll Surcharge	0	0	0	0	0	0	0	0
Other Peak Daily Emissions								
Fugitive Dust	-	-	-	-	0	0	0	
Commuter Emissions								
Dredging Activities								
Dredging Activities	0	0	0	0	0	0	0	0
Peak Daily Emissions	2	10	31	0	0	0	0	
Mitigated Peak Daily Emissions (1)	2	10	31	0	0	0	0	
SCAQMD Daily Significance Thresholds	75	550	100	150	NA	150	55	

(1) These data represent 90% control of fugitive dust only.

Table A-4.1-Alt 2-114. Annual Conformity-Related Construction Emissions from Construction Equipment – POLB Middle Harbor Alternative 2

Year	Tons					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.12	0.55	1.67	0.00	0.29	0.13
2010	1.77	8.01	24.93	0.17	3.67	1.77
2011	1.00	4.26	13.94	0.39	1.83	0.93
2012	1.27	4.09	12.11	0.76	4.78	1.91
2013	1.26	4.32	12.85	0.91	3.93	1.74
2014	0.70	3.11	9.73	0.19	0.36	0.51
2015	0.42	1.51	4.62	0.10	1.49	0.57
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A-4.1-Alt 2-115. Annual Conformity-Related Construction Emissions from Trucks – POLB Middle Harbor Alternative 2

Year	Tons					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.05	0.22	0.74	0.00	0.04	0.04
2010	0.59	2.44	8.27	0.11	0.44	0.41
2011	0.23	0.96	3.23	0.07	0.17	0.16
2012	0.52	1.64	5.17	0.36	0.18	0.41
2013	0.52	1.57	4.97	0.39	0.20	0.41
2014	0.19	0.79	2.69	0.05	0.09	0.13
2015	0.13	0.50	1.68	0.01	0.10	0.09
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A-4.1-Alt 2-116. Annual Conformity-Related Construction Emissions from Tug Boat Usage Within 3nm of the Coast – POLB Middle Harbor Alternative 2

Year	Tons					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.05	0.38	1.09	0.01	0.04	0.04
2010	1.43	12.43	36.75	0.53	1.34	1.25
2011	0.24	2.07	5.94	0.06	0.21	0.19
2012	0.30	1.60	4.67	0.21	0.25	0.28
2013	0.56	4.50	12.42	0.45	0.06	0.45
2014	0.65	5.73	16.34	0.29	0.41	0.54
2015	0.09	0.86	2.15	0.00	0.08	0.07
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A-4.1-Alt 2-117. Total Annual Conformity-Related Construction Emissions – Federal Action Portion of POLB Middle Harbor Alternative 2

Year	Tons					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009	0.22	1.15	3.50	0.01	0.37	0.20
2010	3.79	22.88	69.95	0.81	5.44	3.43
2011	1.47	7.29	23.11	0.51	2.21	1.29
2012	2.09	7.33	21.96	1.33	5.21	2.60
2013	2.33	10.39	30.23	1.75	4.18	2.61
2014	1.54	9.63	28.76	0.53	0.86	1.18
2015	0.66	2.89	8.46	0.13	1.68	0.75
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
Conformity De Minimis Thresholds - SCAB	25	100	25	100	70	100

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Activity	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011
	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct	
	1st	2nd														
Surcharge (Initial Pump, Plus Clamshell or Truck)																
Roll Surcharge																
Remove Surcharge to Slip 1 Fill Site																
Roll Surcharge					0.34											
Utility Construction																
New Container Yard Utilities			0.00													
Paving																
New Container Yard Construction - Paving							0.49									
Lighting, Fence, Striping, Crane Power																
New Container Yard Construction - Electrical											0.00					
Construct Retaining Structure at Pier D Oil Area																
Retaining Bulkhead Construction																
Excavate & Truck Material in Cell Bulkhead																
Land Ex																
Excavate Material Fronting Pier D																
Land Ex																
Clamshell Dredging																
Remove Cellular Sheetpile																
Sheet Pile Bulkhead Demolition																
Rock Revetment																
Rock Placement, Push Off & Tub & Orange Peels																
Hydraulic or Clamshell Dredge to -55 ft																
Clamshell Dredging																
Ground Improvements Pier D																
Stone Column Installation Eq																
Marine Rock Delivery Eq																
Demo - E12-13 Wharf																
Wharf Demolition Landside																
Wharf Demolition Marine																
Lift #1 (~ -30)																
Rock Placement, Push Off & Tub & Orange Peels																
Lift #2 (~ -15)																
Rock Placement, Push Off & Tub & Orange Peels																
Lift #3 (~ 0)																
Rock Placement, Push Off & Tub & Orange Peels																
Lift #4 (~ +15)																
Rock Placement, Push Off & Tub & Orange Peels			0.97													
Initial Surcharge and Wick Drains													0.04			
Wick Drains																
Roll Surcharge													1.03			

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLE
Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB
Middle Harbor Alternative 2

Activity	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2013	2013	2013	2013
	Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb	
	1st	2nd														
Ph 1-3 Demolish Existing Facilities																
Wharf Demolition Landside																
Wharf Demolition Marine																
Sheet Pile Bulkhead Demolition																
Construct New Bulkhead																
Retaining Bulkhead Construction																
Excavation Fronting E26 and Dispose Slip 1																
Clamshell Dredging																
Construct New Armor Slope																
Rock Placement, Push Off & Tub & Orange Peels																
Wharf Construction																
Drive 24-In Octagonal Piles - Land																
Drive 24-In Octagonal Piles - Water																
Drive Piles - Misc Activities																
Reinforced Concrete Wharf																
Construct E27 Bulkhead																
Retaining Bulkhead Construction																
CY Development																
Vibratory Hammer & Power Pack																
Flatbed Truck																
Welding Machine																
Hydraulic Dredge to -55ft																
Clamshell Dredging																
Ph 1-6a Demo Existing F1-4, F6 Wharf																
Wharf Demolition Landside							3.28									
Roll Surcharge																
Ph 1-6b Demo Existing F8-10 Wharf																
Wharf Demolition Landside												1.35				
Wharf Demolition Marine												2.48				
Construct Wharf, Armor, Fill																
Land Ex																
Rock Placement, Push Off & Tub & Orange Peels																
Retaining Bulkhead Construction																
Drive 24-In Octagonal Piles - Land																
Drive 24-In Octagonal Piles - Water																
Drive Piles - Misc Activities																
Reinforced Concrete Wharf																
Activity Total Tons	0	3	0	0	3	0	1	0	0	0	6	0	0	0	0	0
Yearly Total (Tons)											22					

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLE
Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB
Middle Harbor Alternative 2

Activity	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2015	2015	2015	2015
	Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb		
	1st	2nd															
Ph 1-3 Demolish Existing Facilities																	
Wharf Demolition Landside																	
Wharf Demolition Marine																	
Sheet Pile Bulkhead Demolition																	
Construct New Bulkhead																	
Retaining Bulkhead Construction																	
Excavation Fronting E26 and Dispose Slip 1																	
Clamshell Dredging																	
Construct New Armor Slope																	
Rock Placement, Push Off & Tub & Orange Peels							7.25										
Wharf Construction																	
Drive 24-In Octagonal Piles - Land													0.72				
Drive 24-In Octagonal Piles - Water													1.52				
Drive Piles - Misc Activities													1.53				
Reinforced Concrete Wharf													4.56				
Construct E27 Bulkhead																	
Retaining Bulkhead Construction																	
CY Development																	
Vibratory Hammer & Power Pack																	
Flatbed Truck																	
Welding Machine																	
Hydraulic Dredge to -55ft																	
Clamshell Dredging									2.00								
Ph 1-3 Demo Existing F1-4, F6 Wharf																	
Wharf Demolition Landside																	
Roll Surcharge																	
Ph 1-6a Roll Surcharge																	
Ph 1-6b Demo Existing F8-10 Wharf																	
Wharf Demolition Landside																	
Wharf Demolition Marine																	
Construct Wharf, Armor, Fill																	
Land Ex																	
Rock Placement, Push Off & Tub & Orange Peels																	
Retaining Bulkhead Construction																	
Drive 24-In Octagonal Piles - Land																	
Drive 24-In Octagonal Piles - Water																	
Drive Piles - Misc Activities																	
Reinforced Concrete Wharf																	
Activity Total Tons	0	0	0	7	0	0	2	0	0	0	0	8	0	0	0	0	0
Yearly Total (Tons)												29					

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB Middle Harbor Alternative 2

Table A-4.1-Alt2-118. Total Annual NOx Emissions - POLB
Middle Harbor Alternative 2

Activity	2015		2015		2015		2015		2016		2016		2016		2016		2016		2016		2016				
	Nov		Dec		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	
Ph 1-3	Demolish Existing Facilities																								
	Wharf Demolition Landside																								
	Wharf Demolition Marine																								
	Sheet Pile Bulkhead Demolition																								
	Construct New Bulkhead																								
	Retaining Bulkhead Construction																								
	Excavation Fronting E26 and Dispose Slip 1																								
	Clamshell Dredging																								
	Construct New Armor Slope																								
	Rock Placement, Push Off & Tub & Orange Peels																								
	Wharf Construction																								
	Drive 24-In Octagonal Piles - Land																								
	Drive 24-In Octagonal Piles - Water																								
	Drive Piles - Misc Activities																								
	Reinforced Concrete Wharf																								
	Construct E27 Bulkhead																								
	Retaining Bulkhead Construction																								
	CY Development																								
	Vibratory Hammer & Power Pack					0.00																			
	Flatbed Truck					0.12																			
	Welding Machine					0.00																			
Ph 1-3	Hydraulic Dredge to -55ft																								
	Clamshell Dredging																								
Ph 1-6a	Demo Existing F1-4, F6 Wharf																								
	Wharf Demolition Landside																								
	Roll Surcharge																								
	Roll Surcharge																								
Ph 1-6b	Demo Existing F8-10 Wharf																								
	Wharf Demolition Landside																								
	Wharf Demolition Marine																								
	Construct Wharf, Armor, Fill																								
	Land Ex																								
	Rock Placement, Push Off & Tub & Orange Peels																								
	Retaining Bulkhead Construction																								
	Drive 24-In Octagonal Piles - Land																								
	Drive 24-In Octagonal Piles - Water																								
	Drive Piles - Misc Activities																								
	Reinforced Concrete Wharf																								
	Activity Total Tons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Yearly Total (Tons)																								