



Unified Port of San Diego

(11)

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Attachment B to Agenda File No. 2024-290

COASTAL DEVELOPMENT PERMIT

**Applicant:** Mark McIntire, Project Manager  
Engineering-Construction Department  
San Diego Unified Port District  
3165 Pacific Highway  
San Diego, CA 92101

San Diego Unified Port District  
Document No. 55970  
Filed JAN 19 2010  
Office of the District Clerk

**Project:** B Street Shore Power Project

**Location:** 1140 and 1000 North Harbor Drive in San Diego, California

You are hereby granted a Coastal Development Permit. This permit is issued in conformance with the California Coastal Act of 1976 and the Coastal Permit Regulations of the San Diego Unified Port District, as adopted by the Board of Port Commissioners on July 1, 1980, Resolution No. 80-193, and as amended on December 2, 1980, Resolution No. 80-343, and on February 14, 1984, Resolution No. 84-62, in accordance with the provisions for the issuance of a  Emergency  Non-appealable  Appealable Coastal Development Permit.

Date of Board Action: January 5, 2010

Board of Port Commissioners Resolution Number: 2010-08

Date of Permit: January 15, 2010

Application Number: 2009 013-33-142

Permit Number: CDP-2010-001

The Project is located between the sea (as defined in the Coastal Act) and the first inland continuous public road paralleling the sea. The project is fully consistent with Public Resources Code Sections 30604(c), 30210-30224, and the Coastal Act public access and recreation policies referenced therein.

This permit is limited to the development described below and set forth in material on file with the San Diego Unified Port District (District), and subject to the terms, conditions, and provisions hereinafter stated:

**BACKGROUND**

The Project site is principally the existing man-made pier (B Street Pier) and secondarily the Broadway Pier; both are located in the PMP Planning District 3, Center City Embarcadero Area (Subarea 33). The land use designations are Marine Terminal, Commercial Recreation, Park/Plaza, and Promenade uses. Above surface

**ORIGINAL**

## COASTAL DEVELOPMENT PERMIT

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This permit is limited to the development described below and set forth in material on file with the San Diego Unified Port District (District), and subject to the terms, conditions, and provisions hereinafter stated:

### BACKGROUND

The Project site is principally the existing man-made pier (B Street Pier) and secondarily the Broadway Pier; both are located in the PMP Planning District 3, Center City Embarcadero Area (Subarea 33). The land use designations are Marine Terminal, Commercial Recreation, Park/Plaza, and Promenade uses. Above surface

improvements will occur on the piers only in areas designated as Marine Terminal or Commercial Recreation. The types of uses allowed in the Commercial Recreation category include hotels, restaurants, convention center, recreational vehicle parks, specialty shopping, pleasure craft marinas, and sport fishing. Marine Terminal uses consist of facilities required for the docking of ships and unloading/loading a variety of cargo types. The improvements in areas with designations other than Marine Terminal or Commercial Recreation consist of laying cable beneath the surface. Promenade use indicates a shoreline public pedestrian promenade-bicycle route system. Park/Plaza uses include urban type recreational developments and amenities, public art, public parks, public fishing piers, vista areas, scenic roads, and recreational facilities.

The B Street Pier consists of a 9.1-acre deck area pier with a pier foundation of hydraulic-fill mole structure (approximately 60% fill in the center area) and a bearing pile supported reinforced concrete deck and girder marginal wharf at the remaining 40% perimeter area of the pier. The Broadway Pier is approximately 3.0 acres of impervious paved deck and is constructed entirely on piles. Both piers currently provide support to cruise ship operations.

Current operations consist of cruise ship berthing to load and unload passengers and their luggage, as well as supplies for the voyages. In 2008, 255 ships called at the B Street and Broadway piers. In general, cruise ships spend between 3 to 14 hours at berth. While at berth, a ship's hotelling needs (i.e., on-board electricity) are provided by a ship's engine, usually an auxiliary engine burning marine diesel oil (MDO) or other on-board fuel; thus, hotelling can result in appreciable criteria, toxic and greenhouse gas emissions. The Project allows for shore power to provide hotelling needs while cruise ships are at berth rather than the on-board fuel combustion. The Project is partly funded by grant money from the California Air Resources Board because it would reduce air emissions of criteria, toxic, and greenhouse gas pollutants from cruise ships when they are at berth in San Diego Bay. Implementation of this project is also a necessary step for eventual compliance with the California Air Resources Board Shore Side Power Rule, adopted in December 2007, which requires shore power infrastructure to be operational by January 2014.

## **DEVELOPMENT**

By December 31, 2010, the Port District plans to have three berths equipped to provide shore power to cruise ships capable of using the shore-power equipment, over 3 years in advance of the CARB requirements. Although three berths will be equipped with shore power equipment upon implementation of this Project, power will be provided in two phases. Phase 1 of the Project would provide shore power to one ship at a time, regardless of which berth it is at. Phase 2 operations are scheduled to begin in 2017 and would be able to provide shore power to two berths simultaneously, regardless of which of the three berths they berth at. The Project entails installation of both infrastructure and above ground facilities to provide shore power to both B Street and Broadway Piers.

### B Street Pier

In general, the B Street CST Shore Power System includes shore power electrical equipment, automation and operational software controls infrastructure at B Street Pier within a fenced area at the eastern edge of the pier. Infrastructure on the B Street Pier (connected to two berths) consists of:

- Electrical system components will be housed in multiple utility boxes between 8 and 12 feet tall with a combined length of approximately 70 feet and a combined width of approximately 40 feet.
- Electrical system components include primary electrical infrastructure (i.e., provided by SDG&E), primary equipment, two transformers, a 12 kV main circuit breaker, a capacitor bank, secondary equipment, meters, relays, capacitors, control panels, cables, ground switch, and cable management controls.
- Transformers will provide electricity at a specified voltage (i.e., 6.6kV or 11kV) per ship.
- Power cables will connect power lines from the transformers to the on-dock shore-side connection locations and from those locations to the ships.
- Communication cables will synchronize the power to the ship's on-board electrical equipment.
- Up to three (3) approximately 20-foot tall jib cranes will facilitate lifting the cable enabling cruise ships to 'plug-in' on the north and south sides of the pier.
- System components will be enclosed in an 85 foot long by 41 wide by 8-foot tall enclosure fence behind an existing 12-foot tall security fence along the Harbor Drive Promenade.
- Concrete mounting pads and other ancillary improvements will secure the system components and jib cranes.

### Broadway Pier

Infrastructure on the Broadway Pier (connected at one berth) consists of:

- Power cables will connect power lines from the transformers to the on-dock shore-side connection locations and from those locations to the ships.
- An approximately 20-foot tall jib crane will facilitate lifting the cable enabling cruise ships to 'plug-in' on the north side of the pier.
- Ancillary improvements will secure the jib cranes.

### North Harbor Drive

Infrastructure along North Harbor Drive to allow shore-power capable cruise ships to obtain power pier-side through flexible electrical cables consists of cable installation beneath the promenade and right of way, which may include portions extending under the existing wharf. No in-water alignment is anticipated.

## **STANDARD PROVISIONS**

1. Permittee shall adhere strictly to the current plans for the project as approved by the District.
2. Permittee shall notify District of any changes in the project.
3. Permittee shall meet all the local code requirements and ordinances and obtain all necessary permits from local, state and federal agencies.
4. Permittee shall conform to the permit rules and regulations of the District.
5. Permittee shall be responsible for compliance with ADA and Title 24 specifications.
6. Permittee shall commence development within two (2) years following the date of permit issuance by the District. Construction shall be pursued in a diligent manner and completed within a reasonable period of time.
7. The permit is in no way intended to affect the rights and obligations heretofore existing under private agreements nor to affect the existing regulations of other public bodies.
8. This permit shall not be valid unless two copies have been returned to the Land Use Planning Department of the District, upon which copies the permittee has signed a statement agreeing that the permittee will abide by the terms, conditions, limitations, and provisions of the permit.
9. All best management practices must be performed during construction and maintenance operations. This includes no pollutants in the discharges to storm drains or to Pacific Ocean, to the maximum extent practicable.

## **SHORT TERM CONSTRUCTION MEASURES**

1. To minimize noise impacts during construction, the permittee will require the construction contractor to (a) restrict normal construction activities from 7:00 am to 10:00 pm; (b) keep construction equipment as far as possible from sensitive receptors; and (c) provide acoustical shielding around equipment operating at night, from 10:00 pm to 7:00 am.
2. To minimize fugitive air emissions during construction, the permittee will require the construction contractor to keep fugitive dust down by regular watering.
3. To minimize nuisance effects from lights or glare during construction, the contractor will shield and direct night lighting away from adjacent areas.

4. All trucks hauling loose material during project construction, either on-site or off-site, shall be adequately covered.
5. Suspend all ground-disturbing activities when wind speeds (as instantaneous gusts) exceed 25 mph at a portable weather station on the project site.
6. Access points onto local paved roads shall be kept clean and swept as necessary. If visible soil material is carried onto adjacent public paved roads, use of a water sweeper will be required to clean the public road.
7. Traffic speeds on all unpaved surfaces shall be limited to 15 mph.
8. Permittee shall prevent inactive trucks from idling more than 10 minutes during construction once they arrive on the construction site.
9. All construction equipment shall be maintained in peak condition to reduce operational emissions.
10. Diesel equipment shall use low-sulfur diesel fuel.
11. Electric equipment shall be used to the maximum extent feasible during construction.
12. Construction employees shall be provided with transit and ride share information.
13. Permittee shall ensure that any site contamination is identified and a site restoration plan, acceptable to the appropriate regulatory agencies, is prepared and implemented to reduce any existing contamination to a level that has no potential to threaten employee or human health as defined under existing regulations. If any potential exists for impacts to employee health from exposure to acidic or caustic soils, workers shall be provided with adequate protective gear.
14. Permittee shall require all employees that are exposed to noise levels in excess of Occupational Safety and Health Administration hearing protection thresholds, during construction or operation, to wear noise protection devices (ear plugs and covers) that are protective of individual hearing.
15. All Port of San Diego tidelands are regulated under Regional Water Quality Control Board Order No. R9-2007-0001, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108758, Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District (Municipal Permit). The Municipal Permit prohibits any activities, including those related to

construction that could degrade stormwater quality. The project shall be in compliance with the Municipal Permit and the District Jurisdictional Urban Runoff Management Document (JURMP). The JURMP is available on the District website: [http://www.portofsandiego.org/sandiego\\_environment/susmp.asp](http://www.portofsandiego.org/sandiego_environment/susmp.asp) or by contacting the Environmental Services Department, (619) 686-6254.

The construction activity herein requires the implementation of Best Management Practices (BMPs) used to control discharges to the storm water conveyance system from construction activities. (NOTE: Based on the reported square footage and project activities, this project is not subject to State Water Resources Control Board Order No. 99-08-DWQ, (NPDES General Permit No. CAS000002) Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Storm Water Permit).

### **SPECIAL PROVISIONS**


1. In order to reduce noise generated by transformers on the B Street Pier to below the City of San Diego noise limits six feet from the transformer yard easement boundary, either:
  - i. a noise barrier will be constructed along the eastern property boundary; or
  - ii. the transformer will be internally insulated.

### **Attachments**


- Exhibit 1 – Location Map
- Exhibit 2 – Overall Site Plan
- Exhibit 3 – B Street Pier Component Housing Site Plan

If you have any questions on this permit, please contact the Land Use Planning Department of the San Diego Unified Port District.

CHARLES D. WURSTER  
President/Chief Executive Officer

By:   
\_\_\_\_\_  
JOHN W. HELMER  
Director, Land Use Planning

I have read and understand the terms, conditions, limitations, and provisions of this permit and agree to abide by them.

  
\_\_\_\_\_  
Signature of Permittee  
Mark McIntire  
Project Manager, Engineering-Construction

1/15/10  
Date





**Exhibit 1 – Location Map**

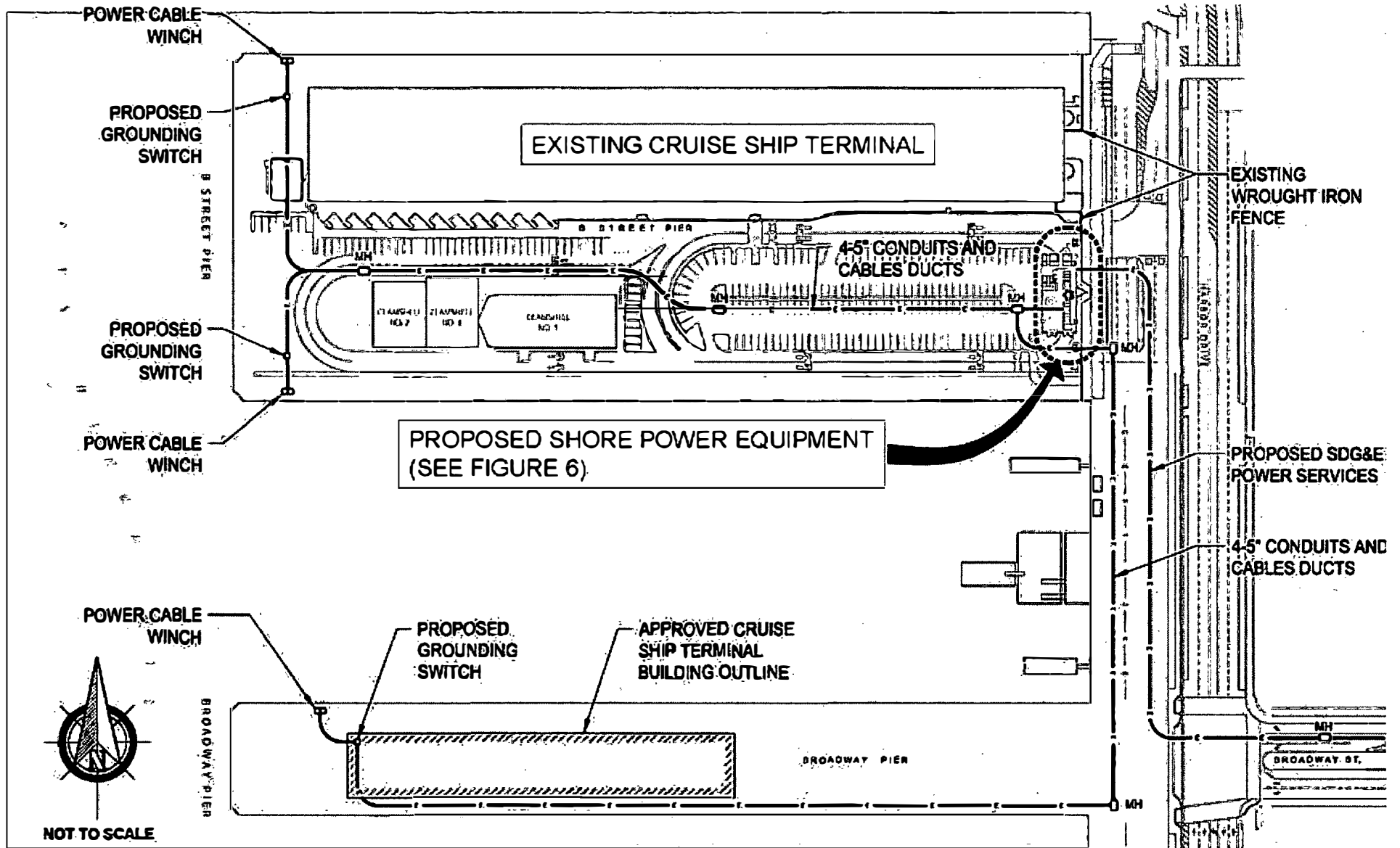


Exhibit 2 – Overall Site Plan

55970 11

EQUIPMENT LINE-UP SCHEDULE

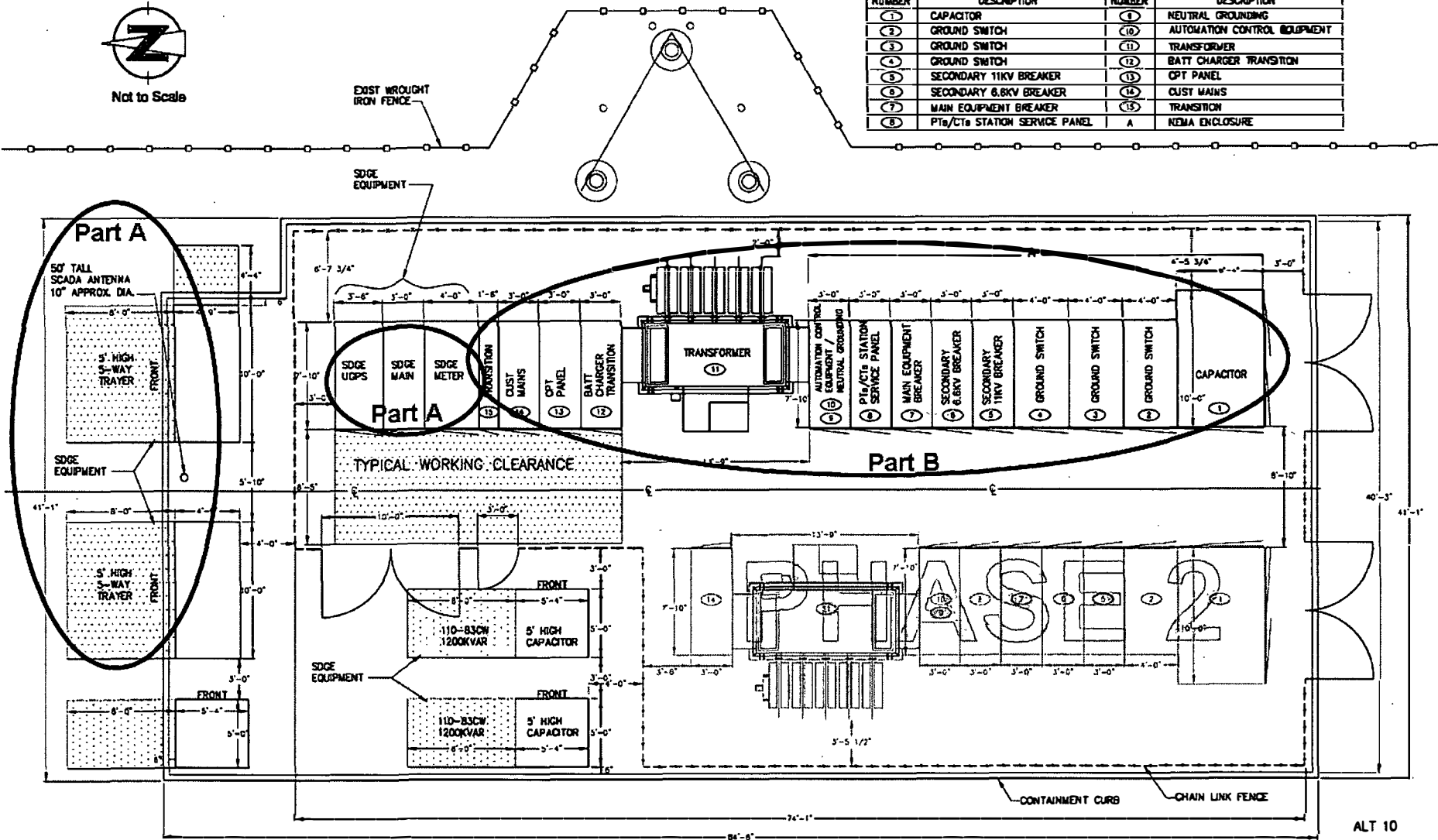
| NUMBER | DESCRIPTION                   | NUMBER | DESCRIPTION                  |
|--------|-------------------------------|--------|------------------------------|
| (1)    | CAPACITOR                     | (4)    | NEUTRAL GROUNDING            |
| (2)    | GROUND SWITCH                 | (10)   | AUTOMATION CONTROL EQUIPMENT |
| (3)    | GROUND SWITCH                 | (11)   | TRANSFORMER                  |
| (4)    | GROUND SWITCH                 | (12)   | BATT CHARGER TRANSITION      |
| (5)    | SECONDARY 11KV BREAKER        | (13)   | CPT PANEL                    |
| (6)    | SECONDARY 8.8KV BREAKER       | (14)   | CUST MAINS                   |
| (7)    | MAIN EQUIPMENT BREAKER        | (15)   | TRANSITION                   |
| (8)    | PTs/CTs STATION SERVICE PANEL | A      | NEMA ENCLOSURE               |



Not to Scale

EXIST WROUGHT IRON FENCE

SDGE EQUIPMENT



ALT 10

Exhibit 3 – B Street Pier Component Housing Site Plan

Re Coastal Development Permit - ]  
] ]  
"B Street Shore Power Project" ] ]  
] ]  
1140 and 1000 North Harbor Drive, ] ]  
] ]  
San Diego, California . . . . . ] ]  
\_\_\_\_\_ ] ]

RESOLUTION 2010-08

WHEREAS, the B Street Shore Power Project (Project) will develop infrastructure facilities so that cruise ships can turn off their engines and then "plug" into shore power while berthed at B Street and Broadway Piers; greatly reducing diesel engine emissions while cruise ships are berthed; and

WHEREAS, the Project would initially facilitate the use of shore power for approximately Fifty One (51) vessel visits per year; and

WHEREAS, said Project is intended to comply with the California Air Resources Board (CARB) Shore Power Rule which requires that at least Fifty Per Cent (50%) of an operator's fleet (passenger vessels that visit more than five times per year) ship calls to the San Diego Unified Port District (District) will be shore powered by 2014; and

WHEREAS, these rules require that shore power use will increase to Seventy Per Cent (70%) in 2017 and to Eighty Per Cent (80%) in 2020; and

WHEREAS, the District desires to install infrastructure and above-ground facilities to provide shore power to both the B Street and Broadway Piers; and

WHEREAS, the District is trustee of said tidelands; and

WHEREAS, an application has been prepared for a Coastal Development Permit to provide for the construction of said Project; and

WHEREAS, the Board of Port Commissioners (Board) of District finds that said application and attachments thereto contain correct and accurate statements of fact; and

WHEREAS, the Board has concluded that said Project conforms to the District Master Plan; and

WHEREAS, the Board has considered the Mitigated Negative Declaration for said Project and authorized and directed the Executive Director of the District or his authorized representative to file a Notice of Determination with the Secretary for Resources and the San Diego County Clerk, NOW THEREFORE,

BE IT RESOLVED by the Board of Port Commissioners of the San Diego Unified Port District, as follows:

That the Board further finds:

1. The Project, in general, consists of providing shore power to the B Street Pier and Broadway Pier, with cable along North Harbor Drive in the City of San Diego, as follows:

a. B Street Pier Cruise Ship Terminal shore power system includes shore power electrical equipment, automation and operational software controls infrastructure within a fenced area, located at the eastern edge of said Pier; infrastructure on said B Street Pier (connected to Two [2] berths) consists of:

- ◆ Electrical system components to be housed in multiple utility boxes between 8 and 12 feet tall with a combined length of approximately 70 feet and a combined width of approximately 40 feet;
- ◆ Electrical system components include primary electrical infrastructure (i.e., provided by San Diego Gas & Electric Company), primary equipment, Two (2) transformers, a 12 kV main circuit breaker, a capacitor bank, secondary equipment, meters, relays, capacitors, control panels, cables, ground switch and cable management controls;
- ◆ Transformers to provide electricity at a specified voltage (i.e., 6.6kV or 11kV) per ship;
- ◆ Power cables to connect power lines from the transformers to the on-dock shore-side connection locations and from those locations to the ships;

- ◆ Communication cables to synchronize the power to the ship's on board electrical equipment;
- ◆ Up to Three (3) approximately 20 foot tall jib cranes to facilitate lifting the cable, enabling cruise ships to "plug-in" on the north and south sides of the Pier;
- ◆ System components to be enclosed in an 85 foot long by 41 foot wide by 8 foot tall enclosure fence behind an existing approximately 12 foot tall security fence along the Harbor Drive Promenade;
- ◆ Concrete mounting pads and other ancillary improvements to secure the system components and jib cranes;

b. **Broadway Pier Infrastructure** (connected at One [1] berth), consists of:

- ◆ Power cables to connect power lines from the transformers to the on-dock shore-side connection locations and from those locations to the ships;
- ◆ An approximately 20 foot tall jib crane to facilitate lifting the cable enabling cruise ships to "plug-in" on the north side of the Pier;
- ◆ Ancillary improvements to secure the jib cranes;

c. **North Harbor Drive infrastructure** to allow shore power capable cruise ships to obtain power pier-side through flexible electrical cables will consist of cable installation beneath the promenade and right-of-way, which may include portions extending under the existing wharf; no in-water alignment is anticipated;

said Project is located within Planning District 3, Center City Embarcadero Area (Subarea 33) of the District Master Plan, the Precise Plan for which provides for uses as follows: "Marine Terminal", "Commercial Recreation", "Park/Plaza" and "Promenade".

2. The proposed use for the Project is consistent with the use and development concept for the Center City Embarcadero area as provided in said District Master Plan and, as such, is a Non- Appealable Development which conforms to the certified District

Master Plan. The proposed Project is located between the sea (as defined in the Coastal Act) and the first inland continuous public road paralleling the sea, and said Project is consistent with Public Resources Code Sections 30604(c) and 30210-30224, and the Coastal Act public access and recreation policies referenced therein.

3. The proposed Project which is entitled "B Street Pier Shore Power Project" is consistent with and conforms to the District Master Plan, and, accordingly, the Executive Director or his authorized representative is hereby authorized and directed to issue a Coastal Development Permit for said Project. Said Coastal Development Permit shall require compliance with the Standard Provisions, Short-Term Construction Measures and in particular the conditions listed under the Special Provisions section pertaining to the reduction of noise generated by transformers on the B Street Pier.

ADOPTED this 5th day of January, 2010.

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1/5/10

**SAN DIEGO UNIFIED PORT DISTRICT****Reference Copy:  
Document No 55970**

DATE: January 5, 2010

**SUBJECT: B STREET PIER SHORE POWER PROJECT**

- A) CONDUCT PUBLIC HEARING AND ADOPT A RESOLUTION ADOPTING THE FINAL MITIGATED NEGATIVE DECLARATION FOR THE B STREET PIER SHORE POWER PROJECT, AND DIRECT THE FILING OF THE NOTICE OF DETERMINATION
- B) RESOLUTION AUTHORIZING ISSUANCE OF A NON-APPEALABLE COASTAL DEVELOPMENT PERMIT

**EXECUTIVE SUMMARY:**

The B Street Shore Power Project (Project) will develop infrastructure facilities so that cruise ships can turn off their engines and then 'plug' into shore power while berthed at B Street and Broadway Piers. This will greatly reduce diesel engine emissions while cruise ships are berthed. The Project would initially facilitate the use of shore power for approximately 51 vessel visits per year. This Project is intended to comply with the California Air Resources Board (CARB) Shore Power Rule which requires that at least 50% of an operator's fleet (passenger vessels that visit more than five times per year) ship calls to the San Diego Unified Port District (District) will be shore powered by 2014. These rules require that shore power use will increase to 70% in 2017 and to 80% in 2020.

A Draft Mitigated Negative Declaration (MND) was prepared for the Project in accordance with the provisions of the California Environmental Quality Act (CEQA). After a 30-day public review period which ended on December 18, 2009, comment letters were received. Copies of the comment letters and responses are included in the Final MND provided as Attachment A to this agenda. Staff recommends that the Board conduct a public hearing and adopt a resolution adopting the Final MND for the Project and direct the filing of the Notice of Determination.

A Draft Non-Appealable Coastal Development Permit (CDP) for the Project has also been prepared and is provided as Attachment B to this agenda. The Project is consistent with the intent of the language specified in the certified Port Master Plan. Staff recommends that the Board adopt a resolution authorizing the issuance of a Non-Appealable Coastal Development Permit for the Project.



**RECOMMENDATION:**

## B Street Pier Shore Power Project

- A) Conduct a public hearing and adopt a resolution adopting the Final Mitigated Negative Declaration for the B Street Shore Power Project and direct the filing of the Notice of Determination.
- B) Adopt a resolution authorizing the issuance of a Non-Appealable Coastal Development Permit for the Project.

**FISCAL IMPACT:**

Conducting a public hearing, adopting a Mitigated Negative Declaration and issuing the Non-Appealable Coastal Development Permit will not result in a fiscal impact. The approvals will mark a continuation of the District's efforts to ensure that the necessary deadlines are met to maintain receipt of Carl Moyer Program grant funds from the San Diego Air Pollution Control District (APCD).

**COMPASS STRATEGIC GOALS:**

Conducting a public hearing, adopting a Final Mitigated Negative Declaration and issuing the Non-Appealable Coastal Development permit will mark an important step toward achieving shore power for cruise ships within the District, and will greatly reduce the air pollution emissions and greenhouse gas emissions associated with cruise ship engines running on diesel while berthed.

This agenda item supports the following Strategic Goal(s).

- Promote the Port's maritime industries to stimulate regional economic vitality.
- Enhance and sustain a dynamic and diverse waterfront.
- Protect and improve the environmental conditions of San Diego Bay and the Tidelands.
- Ensure a safe and secure environment for people, property and cargo.
- Develop and maintain a high level of public understanding that builds confidence and trust in the Port.
- Develop a high-performing organization through alignment of people, process and systems.
- Strengthen the Port's financial performance.
- Not applicable.

**DISCUSSION:****Project Need**

The proposed Project is a necessary step for compliance with the CARB Shore Power Rule adopted in December 2007, which requires shore power infrastructure to be operational by January 2014. This Project also is critical to meet the requirements of the Carl Moyer Program grant funding, which requires that the shore power infrastructure be operational by December 31, 2010. Because some cruise ships already are capable of using shore power, the emission reductions related to these ships can begin immediately after the proposed Project is complete, three years in advance of the 2014 compliance date.

**Project Location**

The proposed Project site is located on B Street Pier on North Harbor Drive in downtown San Diego. The adjacent Project area is characterized by a variety of low- and mid-rise uses, such as Anthony's Fish Grotto, the Star of India, and the San Diego Maritime Museum. The Project backdrop also consists of the nearby USS Midway, boats anchored along the bayshore, flagpoles, and lighting standards.

The Project would be developed mainly on the B Street Pier, with minor cable and equipment installation (a jib crane) on Broadway Pier. The 9.1-acre B Street Pier deck currently supports the following:

- Large one-story Cruise Ship Terminal (CST) building. The CST is a 108,000-square foot masonry building (870 feet long by 132 feet wide) with an arched metal joist and beam-framed roof, ranging from 20 to 25 feet in height;
- Two 30-foot high canvas and metal frame structures (sprung structures) used for cruise ship passenger baggage laydown (approximately 9,000 square feet and 4,500 square feet in size, respectively);
- 30-foot high tent used for cruise ship passenger baggage laydown, approximately 4,800 square feet in size;
- 20-foot high electronic marquee;
- Associated structural elements such as fences and signage

In addition, a 12-foot high metal security fence runs along the front of B Street Pier, parallel to the Harbor Drive. This security fence will soon be replaced with new 12-foot security fence enhanced with public art. The existing buildings and associated structural elements mentioned above result in narrow, interrupted views of the bay.

**Project Description**

The proposed Project entails installation of both infrastructure and above ground facilities to provide shore power to both B Street and Broadway Piers. The primary system components would consist of multiple utility structures situated within close

proximity to one another at the foot of B Street Pier, approximately 20 feet back from the bayfront promenade. The utility structures would cover an area of approximately 2,450 square feet (70 feet long by 35 feet wide) and be enclosed by a proposed eight-foot high safety fence behind the existing 12-foot high security fence. The total Project area enclosed by the safety fence would be approximately 3,500 square feet (85 feet long by 41 feet wide) or a little more than one percent of the 9.1-acre B Street Pier. Exhibit A shows an existing view of the B Street Pier looking north from the promenade. Exhibit B shows the proposed Project and new security fence viewed from the same perspective.

The shore power system components include primary electrical infrastructure (i.e., provided by SDG&E), primary equipment, two transformers, a 12 kV main circuit breaker, a capacitor bank, secondary equipment, ground switch, and cable management controls. The transformers are needed to provide electricity at a specified voltage (i.e., 6.6kV or 11kV) to each ship.

Power cables will be used to connect power lines from the transformers to the on-dock shore-side connection locations and then from those locations to the berthed cruise ships. Communication cables will be used to synchronize the power to the ships' on-board electrical equipment. The shore power system also includes automation and operational software controls infrastructure at B Street Pier including meters, breakers, relays, ground switches, capacitors, transformers, control panels, cables, and cable conduits. The cable necessary for connecting Broadway Pier to the transformers on B Street Pier, as well as the SDG&E utility cable running to the B Street Pier, will be installed beneath the surface.

There will be an approximately 20-foot jib crane for cable management and support, concrete mounting pads, fencing and other ancillary improvements located on each pier. These cranes will lift the cable to the appropriate input on each cruise ship facilitating cruise ships 'plugging-in'. There will be commissioning and testing of the system, in coordination with SDG&E before regular operations begin. Vessel modifications are not included in the Project and are the responsibility of each cruise ship operator.

This Project will provide shore power connections to two berths on B Street Pier and one berth on Broadway Pier. It will allow shore-power capable cruise ships to obtain power pier-side through flexible electrical cables and turn off their engines while in port. To meet the requirements of the Carl Moyer Program grant funding, the District plans to have these three berths equipped to provide shore power to cruise ships three years in advance of the 2014 CARB requirements. Although all three berths will be equipped with shore power equipment upon completion of Project construction, power will be provided in two phases. Phase 1 power will be available upon completion of equipment installation and will provide shore power to one ship at a time. Phase 2 power will be available in 2017 and will provide shore power to two ships simultaneously.

### CEQA Analysis

On November 18, 2009, the District released a Notice of Intent to Adopt a Mitigated Negative Declaration for the B Street Shore Power Project and Notice of a Public Hearing initiating a 30-day public review period. The public review period ended on December 18, 2009. Only one comment letter was received from the Navy Broadway Complex Coalition (NBCC). The NBCC letter in general indicated their support for the Project but a desire that a long-range goal be developed to find a more permanent home for the equipment. A copy of the letter and staff responses to their comments is provided as part of the Final MND.

Mitigation measures will be incorporated into the overall Project to avoid the potential adverse environmental effects or to mitigate the effects of noise generated by Project components, to a point where clearly no significant environmental effects would occur. The Project would not result in potentially significant adverse impacts to Air Quality, Biological Resources, Land Use and Planning, Population and Housing, Geology, Hazards, Energy and Mineral Resources, Recreation, Utilities and Service Systems, Transportation/Circulation, Water Quality, Hydrology, Public Services, Aesthetics, or Cultural Resources.

The overall purpose of this project is to reduce air and green house gas emissions, measured in Carbon Dioxide Equivalents (CO<sub>2</sub>eq). It important to note that upon implementation of Phase 1, the Project is expected to result in a reduction of CO<sub>2</sub>eq/year from approximately 3,197 metric tons to approximately 1,824 metric tons, a decrease of approximately 1,374 metric tons CO<sub>2</sub>eq/year. Full implementation of the Project (Phase 2) is expected to result in greater reductions if shore-power capable ships happen to be berthed on the same day. In addition, the Project will reduce emissions of criteria and toxic air pollutants such as Nitrogen Oxides, Ozone, Carbon Monoxide, Sulfur Oxides and particulate matter, consistent with the CARB's Shore Power Rule, the District's Clean Air Program, and the District's Green Port Policy. A copy of the Final MND including the comment letter and responses is provided as Attachment A to this agenda.

### Coastal Analysis

The Project is located in Planning District 3 (Centre City Embarcadero), which is delineated on Precise Plan Map Figure 11 in the certified Port Master Plan. The above ground components of the project would be located on the B Street Pier, designated as Commercial Recreation and Marine Terminal in the Port Master Plan and a portion of the Broadway Pier designated as Marine Terminal.

The Project consists of infrastructure components to provide shore power to existing terminal operations at the B Street and Broadway piers with the result of reducing air pollutant emissions and green house gas emissions. The provision of infrastructure for existing operations is ancillary and consistent with the Marine Terminal use

designations and existing operations on B Street Pier and Broadway Pier. The Project will not result in any change in use and supports marine dependent uses. Therefore, the project is consistent with the certified Port Master Plan.

The proposed project is not considered Excluded under the District's Coastal Development Permit Regulations because it would not qualify as a conversion of small structures. In accordance with the Regulations, the proposed project is Non-appealable because it does not qualify as an Appealable or Emergency development.

Copies of the Categorical Determination, CDP application are available from the Land Use Planning Department. A copy of the draft Non-Appealable CDP for the Project is provided as Attachment B to this agenda. Special conditions are incorporated into the CDP to ensure project conformance with the Final MND mitigation requirements.

Staff recommends the Board conduct a public hearing, adopt the Final MND, direct staff to file the Notice of Determination, and authorize the Executive Director to issue the Non-appealable CDP.

**Port Attorney's Comments:**

The Port Attorney has reviewed and approved the document for form and legality.

**Environmental Review:**

The Board's approval of the MND will complete environmental review for this Project. Upon adoption of the Final MND, no further environmental review is required under CEQA.

**Equal Opportunity Program:**

Not applicable.

**PREPARED BY:** Matt Valerio  
Senior Redevelopment Planner, Land Use Planning

**Enclosures:**

- Exhibit A – Existing View North from Bayfront Promenade
- Exhibit B – View North from Bayfront Promenade with Concept Simulation of Proposed Project
  
- Attachment A – Mitigated Negative Declaration for the B Street Shore Power Project
- Attachment B – Non-Appealable Coastal Development Permit for the B Street Shore Power Project



Exhibit A – Existing Conditions



Exhibit B – Concept simulation of proposed project

**FINAL  
MITIGATED NEGATIVE DECLARATION  
FOR  
B STREET SHORE POWER PROJECT**

**December 2009**



# RESPONSE TO COMMENTS MITIGATED NEGATIVE DECLARATION FOR THE B STREET PIER SHORE POWER PROJECT

## Introduction

The Mitigated Negative Declaration (MND) for the B Street Shore Power Project (Proposed Project) (page 1) clearly sets out the purpose and procedure followed by the District, as required by the California Environmental Quality Act (CEQA), for the MND. The District appreciates the time and effort expended in providing comment on this Mitigated Negative Declaration (MND). Unlike requirements for Environmental Impact Reports (EIRs) formal written responses to comments are not required. Although the CEQA Guidelines do not require a lead agency to respond to comments on an MND, the District has elected to provide the following responses to comments received. The entire comment has been provided followed by an underlined response. The numbering of comments and responses has been added to clarify distinct comments.

**December 15, 2009**

### **The Navy Bayfront Complex Coalition**

Comment 1: Thanks for this opportunity to provide comments on this proposed project. The Navy Broadway Complex Coalition is a local group of civic organizations and individuals dedicated to preserving and enhancing public access and the natural environment of San Diego's Downtown Waterfront.

Response to Comment 1: This comment is an introductory statement that does not address the adequacy of the Mitigated Negative Declaration (MND) for the B Street Shore Power Project (Proposed Project). This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project.

Comment 2: We have carefully reviewed Port staff's Draft Mitigated Negative Declaration for B Street Pier Shore Power Project, and generally support the proposed project's overarching goal of decreasing the soot and other emissions generated by docked cruise ships while they are in port. We agree that this action is required to address the requirements of AB32, SB 1368, and other state laws, pending rules and gubernatorial edits.

Response to Comment 2: This comment acknowledges the importance and the benefits that will result from the Proposed Project. This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project. This comment does not address the adequacy of the MND.

Comment 3: However, we believe that this project should be pursued as a temporary, interim solution to reducing cruise ship emissions, with a long-range goal

of finding a more permanent shore power solution that will have fewer negative impacts on public access and views from Harbor Drive to the Bay.

Response to Comment 3: This comment advocates that a new long-range goal be devised to find a more permanent home for shore power that has fewer negative impacts on public access and views from Harbor Drive to the Bay. The District will consider the recommendation in the design of the redevelopment of the B Street Cruise Ship Terminal. The MND described that the shore power equipment is a series of utility boxes industrial in nature and determined that no views of the Bay are obstructed and the existing character of the views over B Street Pier are of the marine industrial cruise ship terminal operations (see sections 7. and 3.I of the MND). No significant impacts associated with public views have been identified as a result of the Proposed Project. Since release of the MND an additional concept simulation of the shore power equipment has been generated and is included in these responses to comments (Exhibit A and B). The simulation demonstrates that the Proposed Project would result in a relatively small additional feature to the existing large-scale pier with existing larger scale structures (the total Project area would be a little more than one percent of the 9.1-acre B Street Pier) and further support the finding of no significant impact. The Proposed Project would not result in any physical change to public access.

Comment 4: We also believe that this new project should not be extended to serve the proposed Broadway Pier cruise ship terminal until after several pending court actions are fully resolved, and that proposed Broadway Pier project and all viable alternatives have been more fully vetted as part of the Port's North Embarcadero Port Master Plan Amendment Environmental Impact Report currently being developed by Port staff.

Response to Comment 4: This comment requests that the Proposed Project implementation not include the connection to the Broadway Pier until after pending court actions are resolved and alternatives are evaluated in the North Embarcadero Port Master Plan Amendment Environmental Impact Report (EIR). The connection to the Broadway Pier is a key component for the District to achieve the requisite number of shore powered hotelling events. The pending court cases and the pending North Embarcadero Port Master Plan Amendment EIR do not affect the continued use of Broadway Pier for cruise ship berthing. This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project. This comment does not address the adequacy of the MND.

Comment 5: We note that Port staff, in the Draft Negative Declaration, assert that the proposed new shore powering facilities would create no negative impacts on public views from Harbor Drive to the Bay over the B Street Pier because those views are currently blocked by temporary, tent-like structures that already exist in the pier. We note with some irony that the Port has been using those temporary structures for several years at the same time that Port staff has argued that it cannot construct similar tent-like structures to serve cruise ships on the Broadway Pier due to legal restrictions by local fire agencies and the US Department of Homeland Security.

Comment 5: This comment makes an observation regarding the effect from existing tent structures on the aesthetics analysis and questions the reasons for presence of the tent structures. The MND analysis of aesthetics is undertaken in accordance with the CEQA regulations and considers the existing conditions as they are. The sprung or tent structures are present on the pier and thus included as part of the existing conditions against which project impacts are evaluated. The rationale for existing conditions is not analyzed in the MND.

Comment 6: We have noticed that the Port Commission's agenda for December 2, 2009 included a request by staff for authorization to hire a new architectural team to begin the design of a new replacement cruise ship terminal structure on the B Street Pier. At the moment, the only permanent building on the pier is the existing cruise ship terminal, located along the northern half of the pier.

Response to Comment 6: This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project. This comment does not address the adequacy of the MND.

Comment 7: We believe that the design of a new B Street Pier cruise ship terminal should be based on clear planning principals that adhere to the mandate in the Port's enabling legislation, the San Diego Unified Port Act of 1962, that requires the Port to preserve and enhance public access and views to the Bay. We believe that the design of a new B Street Pier cruise ship terminal should include goals of encapsulating more permanent shore power facilities within the new building(s), while preserving enhancing public access and views to the water over the pier.

Response to Comment 7: This comment advocates for incorporation of a permanent shore power equipment installation into the design for the redevelopment of the B Street Pier Cruise Ship Terminal. The District will consider the recommendation in the design of the redevelopment of the B Street Cruise Ship Terminal. The MND described that the shore power equipment is a series of utility boxes industrial in nature and determined that no views of the Bay are obstructed and the existing character of the views over B Street Pier are of the marine industrial cruise ship terminal operations (see sections 7. and 3.I of the MND). No significant impacts associated with public views have been identified as a result of the Proposed Project. Since release of the MND additional concept simulations of the shore power equipment have been generated and are included in these responses to comments. The simulations demonstrate that the Proposed Project would result in a relatively small additional feature to the existing large-scale pier with existing larger scale structures (the total Project area would be a little more than one percent of the 9.1-acre B Street Pier) and further support the finding of no significant impact. The Proposed Project would not result in any physical change to public access.

Comment 8: As an alternative, we believe that the Port should fully explore locating permanent shore power facilities in a below grade vault in conjunction with the construction of a new public plaza just east of the B Street Pier on property recently

obtained via the buyout of the US Navy's long term lease of the 1220 Pacific Highway site.

Response to Comment 8: This comment advocates that a new long-range goal be devised to find a more permanent home for the shore power equipment at alternative locations or below grade. The District has explored the potential for under-grounding the equipment and has determined that it is not feasible from safety, equipment access, engineering, and cost perspectives. The District will consider the recommendation in the design of the redevelopment of the B Street Cruise Ship Terminal. This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project. This comment does not address the adequacy of the MND.

Comment 9: We also recommend that each of each of these alternatives, as well as the design and construction of a new cruise ship terminal on the B Street Pier be fully analyzed as part of the pending North Embarcadero Port Master Plan Amendment EIR.

Response to Comment 9: This comment requests that alternatives to the Proposed Project be evaluated in the North Embarcadero Port Master Plan Amendment EIR. The MND analyzed the Proposed Project and determined that all impacts would be less than significant with mitigation; therefore, no additional review is required under CEQA. The District has no plans to change the Proposed Project. This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project. This comment does not address the adequacy of the MND.

Comment 10: To ensure that the new shore power facilities will be fully utilized to help clean up the air around our downtown bayfront, we recommend that the Port Commission adopt clear policies and regulations requiring that all cruise ships utilizing San Diego Bay docking facilities hook up to the new shore power system as soon as the new system is up and operating, and pay the cost of shore power purchased from SDG&E by the Port as part of their regular docking fees.

Response to Comment 10: This comment advocates that the Board of Port Commissioners adopt polices and regulations related to cruise ships and shore power. This comment is included in the record and will be considered by the Board of Port Commissioners when determining whether or not to approve the Proposed Project. This comment does not address the adequacy of the MND.



**Exhibit A** – Existing Conditions



**Exhibit B** – Concept simulation of proposed project

DRAFT  
MITIGATED NEGATIVE DECLARATION  
FOR  
B STREET PIER SHORE POWER PROJECT  
SAN DIEGO, CALIFORNIA

Prepared for:

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November 2009

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- Appendix B: Operational Emissions from Proposed Project

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# Chapter 1 Project Description

## 1 Introduction

This draft Mitigated Negative Declaration has been prepared for the San Diego Unified Port District (Port or Port District) B Street Pier Shore Power Project (Project). The proposed Project includes modifications necessary to install shore-power equipment at the B Street Pier and Broadway Pier Cruise Ship Terminals (CST) so that cruise ships berthing at B Street or Broadway Piers can use electrical power from the shore rather than from their own engines while at berth. This document has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code §21000 *et seq.*) and the implementing regulations, the “CEQA Guidelines” (California Code of Regulations, Title 14, Division 6, Chapter 3, §15000, *et seq.*). Specifically this document meets the requirements of CEQA Guidelines §15071. Based on the CEQA analysis contained in this document, the potential environmental impacts associated with this proposed Project after mitigation are expected to be less than significant.

## 2 Purpose of a Mitigated Negative Declaration

CEQA requires that the potential environmental impacts of proposed “projects” be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts be identified and implemented. The Port District’s proposed modifications constitute a “project”, as defined by CEQA. To fulfill the purpose and intent of CEQA, the Port District, the “lead agency” for the proposed Project, has prepared this draft Mitigated Negative Declaration to address the potential environmental impacts associated with the Port District’s proposed Project at the B Street Pier and Broadway Pier CST.

The CEQA, Public Resources Code (PCR) Section 21064.5, defines a ‘Mitigated Negative Declaration’ as a negative declaration prepared for a project when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to, by the applicant before the proposed negative declaration and initial study are released for public review would avoid or mitigate the effects to a point where no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.

Public Resources Code Section 21064 defines a “Negative Declaration” as a written statement briefly describing the reasons that a proposed project will not have a significant effect on the environment and does not require the preparation of an environmental impact report.

Public Resources Code Section 21068 defines a significant effect on the environment as a substantial, or potentially substantial, adverse change in the environment.

Public Resources Code Section 21082.2 (a) requires the lead agency to determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record. The lead agency is the public agency that has the principal responsibility for

carrying out or approving a project that may have a significant adverse affect upon the environment (PCR §21067). Because the proposed project requires discretionary approval from the Port District for installation of electrical equipment and associated auxiliary equipment, the Port District has the greatest responsibility for supervising or approving the project as a whole. Therefore the Port District is the most appropriate public agency to act as the lead agency [CEQA Guidelines §15051(b)].

### **3 Project Proponent**

The Project proponent is the Port District. The Port District is a special district which was created in 1962 by the San Diego Unified Port District Act, Harbors and Navigation Code, Appendix 1, Section 1, *et seq.* The Port District is responsible for the development, operation, maintenance, control, regulation and management of the harbor of San Diego and the tidelands and lands lying under the inland navigable waters of San Diego Bay, and for the promotion of commerce, navigation, fisheries and recreation thereon. The Port District has jurisdiction and land use management authority over the tidelands and submerged lands conveyed to it by the cities of San Diego, Chula Vista, Coronado, National City and Imperial Beach pursuant to the Act. The tidelands and submerged lands subject to the jurisdiction of the Port District include the site of the proposed Project.

### **4 Project Purpose & Need**

The Port District seeks to modify its facilities located at 1140 and 1000 North Harbor Drive in San Diego, California to install shore-power equipment at the B Street Pier and Broadway Pier. Shore power, also known as “cold-ironing,” supplies power to ships at berth (also know as “hotelling”) rather than the ships using their own engines to provide hotelling power. (Hotelling in this context means those operations on a marine vessel that require electric energy to power operations that include, but are not limited to, lights, ventilation, heating, cooling, and loading and unloading operation that are used when a marine vessel is at berth.) Shore power can dramatically reduce air emissions of criteria, toxic, and greenhouse gas pollutants. The proposed Project is consistent with the Port’s 2007 Clean Air Program<sup>1</sup> (CAP), including the CAP’s shore power candidate control measure, as well as the Port’s Green Port Policy.<sup>2</sup> Implementation of this project is also a necessary step for eventual compliance with the California Air Resources Board (CARB) Shore Side Power Rule (CCR, 2008), adopted in December 2007, which requires shore power infrastructure to be operational by January 2014. Because some cruise lines’ ships already are capable of using shore power, the emission reductions can begin immediately after the proposed Project is complete. (In contrast, many other types of ships that call at the Port, including break-bulk and roll-on/roll-off ships, are not currently cold-ironing capable and would need to be retrofitted to use any future shore-power facilities at those terminals.)

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<sup>1</sup> See <http://www.portofsandiego.org/environment/clean-air.html> for more information on the Port’s Clean Air Program.

<sup>2</sup> See <http://www.portofsandiego.org/environment/green-port.html> for more information on the Port’s Green Port Policy and Program.

## 5 Project Location

The entire system to provide shore power to calling cruise ships requires the installation of equipment on the B Street and Broadway piers as well as off the piers. This Project includes the proposed on-deck shore power equipment on B Street Pier as well as on deck cable management equipment on both piers, the cable laying between the B Street Pier and Broadway Pier, and the cable laying by SDG&E from the Station B Substation along Broadway and continuing north along Harbor Drive to the B Street Pier.

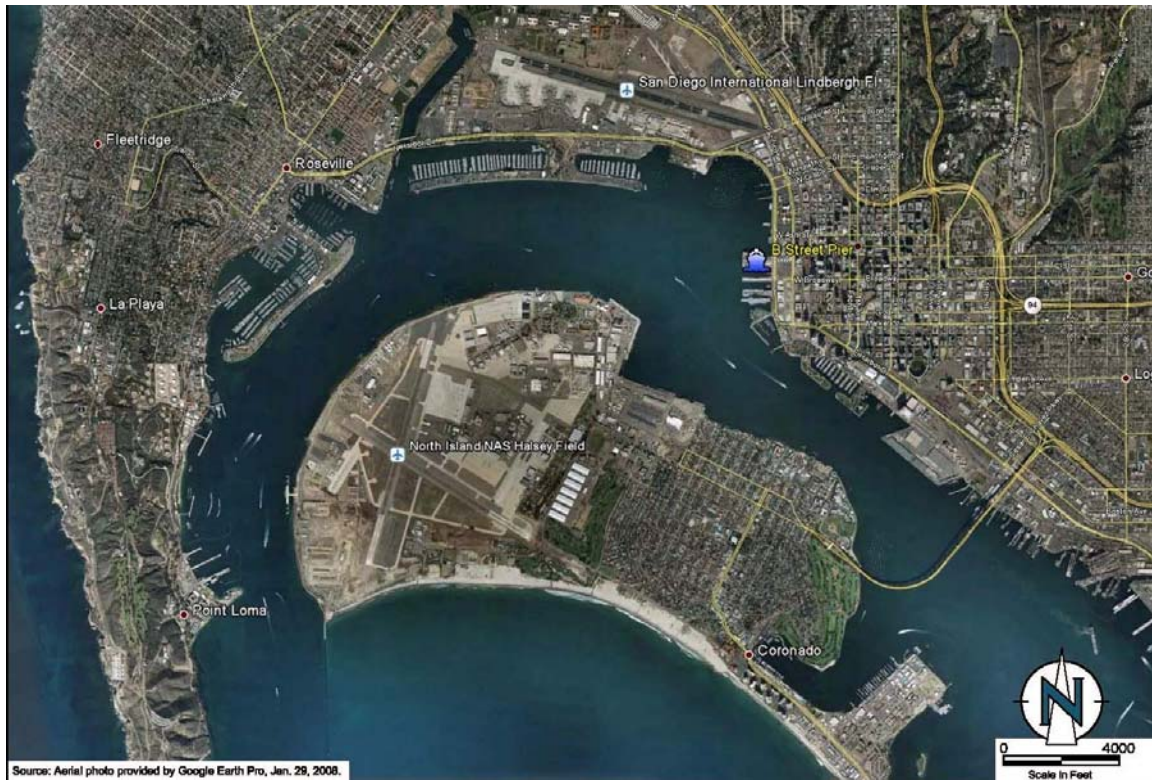
The Project site is located at the northern end of the San Diego Bay in southern California (Figures 1 and 2). The location for the proposed Project is mainly on the B Street Pier in downtown San Diego (Figure 3), with minor cable and equipment installation (a jib crane) on Broadway Pier. The cables transmitting electricity between the piers will be located in conduits hanging from the underside of the wharf along the Harbor Drive. The cable being installed by SDG&E will be located in buried conduits running along Broadway Street and continuing along Harbor Drive. The B Street and Broadway piers are west of North Harbor Drive in between West Ash Street and G Street. The Project site is approximately 600 feet west of the end of West B Street, which does not extend through to the Bay. The site is approximately one mile west of Interstate 5 (I-5). To the north and east is downtown San Diego, and to the south and west is San Diego Bay. The Project site is located on the west side of the San Diego Air Basin, which is within the jurisdiction of the San Diego Air Pollution Control District (SDAPCD).

Downtown San Diego encompasses an area of mixed land uses, with industrial, recreation, residential and commercially zoned areas. Specifically, the CST is adjacent to Public Recreation and Commercial Recreation areas. The land use designations in the Port Master Plan (PMP) for B Street Pier and Broadway Pier, including the Project site, are Marine Terminal, Promenade, Park/Plaza and Commercial Recreation. The water use designation for the water areas adjacent to B Street Pier and Broadway Pier is Terminal Berthing. The on-site construction and operational activities associated with the proposed Project cover an area of approximately 3,600 square feet (0.08 acres).

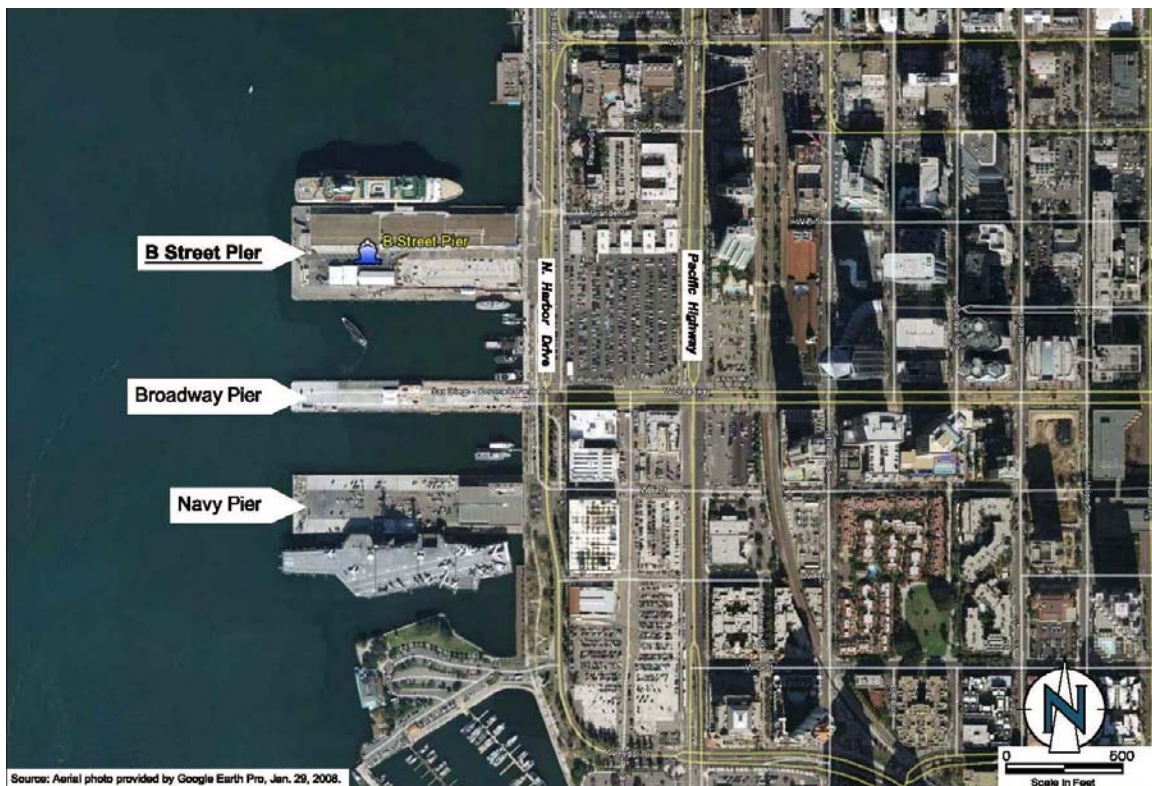
**Figure 1: Port of San Diego Facilities Map**



**Figure 2: Aerial of the Port of San Diego**



**Figure 3: Aerial Photo of B Street Pier and Immediate Vicinity**



## 6 Existing Environmental Setting

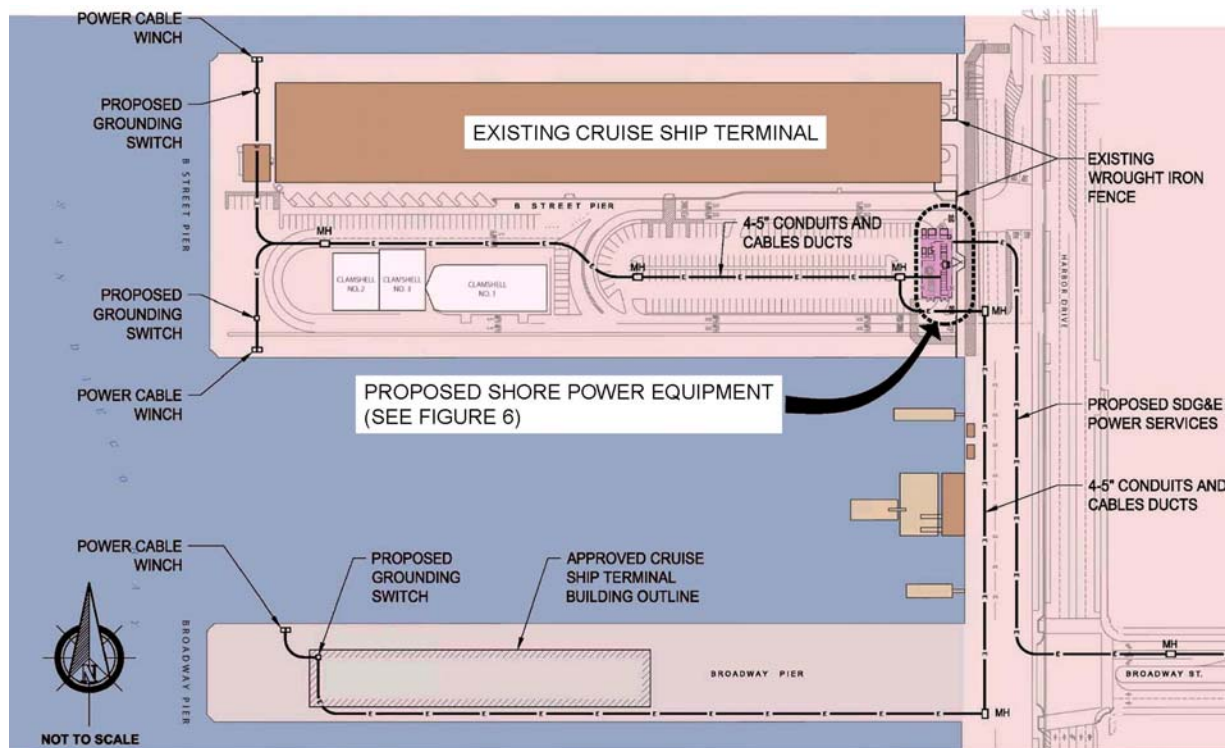
The Project site is principally the existing man-made pier (B Street Pier) and secondarily the Broadway Pier; both are located in the PMP Planning District 3, Center City Embarcadero Area (Subarea 33). The land and water designations are Marine Terminal, Commercial Recreation, Park/Plaza, and Promenade uses. The types of uses allowed in the Commercial Recreation category include hotels, restaurants, convention center, recreational vehicle parks, specialty shopping, pleasure craft marinas, and sport fishing. Promenade use indicates a shoreline public pedestrian promenade-bicycle route system. Park/Plaza uses include urban type recreational developments and amenities, public art, public parks, public fishing piers, vista areas, scenic roads, and recreational facilities. Marine Terminal uses consist of facilities required for the docking of ships and unloading/loading a variety of cargo types.

The B Street Pier lies at the bayfront between Broadway and Ash Streets in downtown San Diego. The north side of the B Street Pier faces open deep water. North of the site area is Anthony's Fish Grotto, the Star of India, and the Maritime Museum of San Diego. All of these small-scale sites are designated as Commercial Recreation and extend out into the San Diego Harbor, which lies north and east of the Pier. To the south of the B Street Pier lies Broadway Pier and south of that is the USS Midway at the Navy Pier. Across the street to the east of the B Street Pier lies public parking, Lane Field, Navy buildings, the Holiday Inn, Santa Fee Railroad Depot and downtown San Diego.

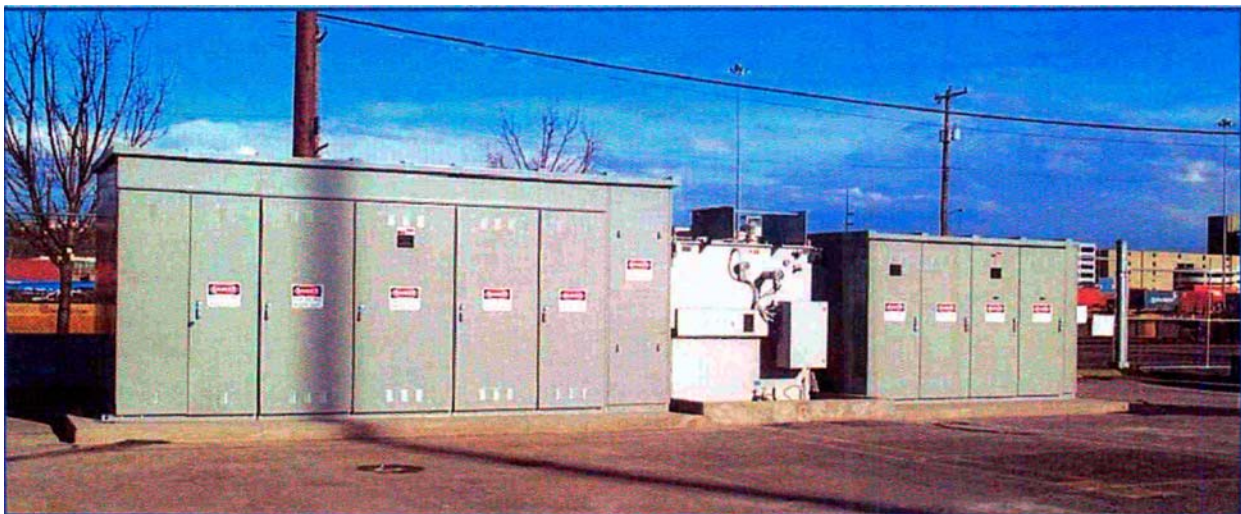
The B Street Pier consists of a 9.1-acre deck area pier with a one-story building. The pier foundation is a hydraulic-fill mole structure (approximately 60% fill in the center area) with a bearing pile supported reinforced concrete deck and girder marginal wharf that extends 60 feet toward the bay on the north and south side, and 60 feet toward the bay on the west side of the pier. The bearing piles are approximately 20 square inches and are spaced at a distance of approximately 10 feet on center.

The B Street Pier is entirely paved with no landscaping or pervious surfaces. Structures on the pier include the CST Building, a metal passenger loading bridge, and three metal frame and canvas structures. The CST Building is a masonry building with an area of approximately 108,000 square feet (870 feet long by 132 feet wide) and an arched metal joist and beam framed roof. The roof varies from 20 feet high at the north and south perimeter walls to a maximum height of 25 feet at the top of the arch. Parapet walls on the east and west end of the building and between the three primary sections of the building extend a few feet above the built-up metal frame and timber roof. The CST Building accommodates not only the CST but also the local U.S. Customs office, cruise service related offices and general storage for the Port in the unfinished area of the warehouse. The general location of the cruise ship facility is adjacent to North Harbor Drive with access to the downtown area via Ash Street and Broadway Street. Figure 4 provides an illustration of the present structures as well as the proposed on-deck shore power equipment discussed in Section 7. Figure 5 shows a similar shore power system.

**Figure 4: General Schematic of Proposed Project Equipment Installation**



**Figure 5: Example of main metering, transformer, and secondary equipment for a similar shore power system in Washington.**



On B Street Pier there are two canvas and metal frame structures (sprung structures) and a tent on the south side of the pier. One of the sprung structures is approximately 60 feet by 150 feet (9,042 square feet) and the other sprung structure is approximately 60 feet by 75 feet (4,500 square feet). The smaller tent in the middle is approximately 60 feet by 80 feet (4,800 square feet). The tent and sprung structures are all about 30 feet high. These structures are used for cruise ship passenger baggage lay down only.



The B Street CST facility offers cruise operators one berth adjacent to the terminal building on the north side and another berth on the south side of the pier. The north berth of the B Street Pier is currently preferred due to its placement adjacent to the CST building and the absence of a pier on the other side of the berth.

The B Street and Broadway piers are separated by an area that is approximately 400 feet wide. The Broadway Pier is approximately 3.0 acres of impervious paved deck and is constructed entirely on piles. A new Broadway CST building, which is not part of the proposed Project, is currently under construction on Broadway Pier, to replace prior cruise ship facilities on the pier. The under construction two-story CST Building and a metal passenger loading bridge will be approximately 52,000 square feet (451 feet long by 75 feet wide). The building will have a sawtooth shaped roof with height varying from 32 feet to 45 feet. An approximately 62-foot high pylon structure will be constructed at the east end of the building. The new CST Building will accommodate cruise ship passengers and baggage facilities, the local U.S. Customs office, cruise service related offices and general storage for the Port. The general location of the cruise ship facility is 400 feet west of North Harbor Drive with access to the downtown area via Harbor Drive and West Broadway Street. The under-construction Broadway Pier CST facility offers cruise operators only one berth adjacent to the north side of the pier.

## 7 Project Description

Current operations at the CST consist of cruise ship berthing to load and unload passengers and their luggage, as well as supplies for the voyages. In 2008, 255 ships called at the B Street and Broadway piers. In general, cruise ships spend between 3 to 14 hours at berth. While at berth, a ship's hotelling needs (e.g., on-board electricity) are provided by a ship's engine, usually an auxiliary engine burning marine diesel oil (MDO) or other on-board fuel; thus, hotelling can result in appreciable criteria, toxic and greenhouse gas (GHG) emissions as illustrated in Table I-1 below.<sup>3</sup> The proposed Project allows for shore power to provide hotelling needs while cruise ships are at berth rather than the on-board combustion of fuel that is currently used.

**Table I-1 2007 Emissions Inventory for the Port of San Diego Cruise Ships<sup>3</sup>**

| Ocean Going Vessel Type      | Emissions (ton/yr) |                 |       |                  |                   |      |                     |
|------------------------------|--------------------|-----------------|-------|------------------|-------------------|------|---------------------|
|                              | NO <sub>x</sub>    | SO <sub>x</sub> | CO    | PM <sub>10</sub> | PM <sub>2.5</sub> | VOC  | CO <sub>2</sub> eq. |
| Cruise Ships                 | 197.03             | 29.06           | 15.59 | 5.95             | 3.26              | 5.67 | 28,458.9            |
| 3 Shore-Power Capable Ships* | 41.71              | 6.15            | 3.30  | 1.26             | 0.69              | 1.20 | NA                  |

\* See discussion below related to the three shore power capable ships.

Through shore power (also known as "cold ironing"), the electrical needs of the cruise ships that berth at the B Street and Broadway piers would be met by connecting with on-pier electrical infrastructure to the ships, enabling the on-board engines to be turned off for most of the time at

<sup>3</sup> All emission estimates except for CO<sub>2</sub> equivalents are from Yorke Engineering, LLC. *Port of San Diego: Cold Ironing Study*, May 2007. CO<sub>2</sub> equivalent estimates are from Starcrest Consulting Group, LLC. *The Port of San Diego 2006 Emissions Inventory*, August, 2007. These estimates are based on older emission factors and different cruise ship activity than those used for Project-specific analyses in this document. CO<sub>2</sub> emissions data per individual cruise ship was not provided in the referenced documents.

berth. Although these on-board engines would need to be used while the ships connect to and disconnect from shore power, the use of shore power would achieve a substantial reduction of overall emissions (see Chapter 2).

By May 31, 2010, the Port District plans to have three berths equipped to provide shore power to cruise ships capable of using the proposed shore-power equipment, over 3 years in advance of the CARB requirements. Although three berths will be equipped with shore power equipment, power will be provided in two phases. Phase 1 of the proposed Project would provide shore power to one hotelling ship at a time, regardless of which berth it is at. Phase 2 operations are scheduled to begin in 2017 and would be able to provide shore power to two berths simultaneously, regardless of which of the three berths they docked at. Presently, there are three cruise ships that typically dock at the Port which are currently shore-power capable – Dawn Princess, Oosterdam and Westerdam. (A shore power capable ship has the on-board systems and connections that can be connected to dock-side power systems.) Based on the number of visits by these three ships, the proposed Project would initially facilitate the use of shore power for approximately 51 vessel visits per year by these shore power capable ships (based on the annual average projected for the time period of June 2010 through 2013) compared to a total of approximately 257 vessel visits per year by 33 cruise ships. As additional ships become shore-power capable, the proposed Project would allow them to use shore power and would further reduce emissions. By 2014, at least 50% of an operator's fleet (passenger vessels that visit more than five times per year) ship calls to the Port will be shore powered, in compliance with CARB's Shore Side Power Rule, increasing to 70% in 2017 and to 80% in 2020. Any shore power capable cruise ship in a fleet that visits the Port fewer than five times per year (and is therefore exempt from the Shore Side Power Rule) or those ships in a fleet that are upgraded to shore power capable in excess of the 2014, 2017 and 2020 requirements would provide even greater reductions beyond those required under the CARB Rule if they utilize the shore power available at the berth.

## **7.1 Equipment Installation**

The proposed Project requires installation of on-pier infrastructure on the B Street Pier (connected to two berths) and Broadway Pier (connected at one berth) to allow shore-power capable cruise ships to obtain power pier-side through flexible electrical cables. The system components include primary electrical infrastructure (i.e., provided by SDG&E), primary equipment, two transformers, a 12 kV main circuit breaker, a capacitor bank, secondary equipment, ground switch, and cable management controls. The transformers are needed to provide electricity at a specified voltage (i.e., 6.6kV or 11kV) to each ship. The power cables will be used to connect power lines from the transformers to the on-dock shore-side connection locations, and from those locations to the ships; communication cables will be used to synchronize the power to the ship's on-board electrical equipment. In general, the B Street CST Shore Power System includes shore power electrical equipment, automation and operational software infrastructure at B Street Pier including meters, breakers, relays, ground switches, capacitors, transformers, control panels, cables, cable conduits, approximately 12-foot tall jib cranes for cable management and support, concrete mounting pads, fencing and other ancillary improvements. The cable necessary for connecting Broadway Pier to the transformers on B Street Pier, as well as the SDG&E cable running from the Station B Substation to the B Street Pier, is addressed in this document. The cable from B Street Pier to Broadway Pier will be

installed beneath the promenade and right of way adjacent to North Harbor Drive, which may include portions extending under the existing wharf. No in-water alignment is proposed. The Project also includes providing a 12-foot tall jib crane for cable management on Broadway Pier for shore power. Before operations begin, there will be commissioning and testing of the system, in coordination with SDG&E. In addition, vessel modifications are not included in the Project description because the vessels for this application are already shore-power capable or future shore power capable ships would be retrofitted off-site.

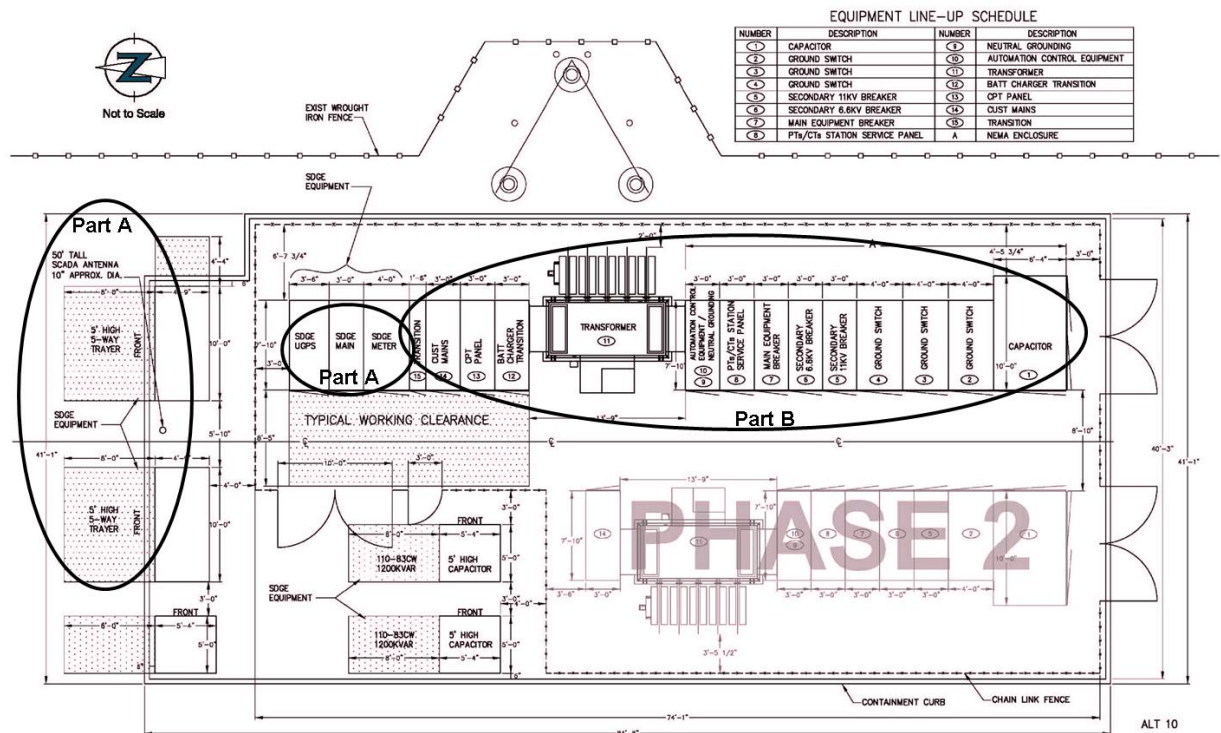
Specifically, the shore power infrastructure required for the proposed Project includes the following (Figure 4):

- **Electrical Primary Infrastructure:** SDG&E will install a new subsurface three-way switch on Broadway, as well as one Supervisory Control and Data Acquisition (SCADA) Trayer 5-way switch and two capacitors on a pad as designated by the Port District, and a 12 kV primary meter in the Cold Ironing Switchgear component. SDG&E will connect all of the above installed equipment to C110 to serve a maximum load of 12 MVA for Phase 1 of the proposed Project. The equipment pad designated by the Port District will be located at the CST and will be granted to SDG&E in the form of an easement for its electrical equipment. SDG&E will reconfigure and extend existing circuit 110 (C110) of Station B Substation, which is located west of Kettner Boulevard and southeast of E Street. The C110 will be extended with new 750 kcmil copper cables in existing and new underground conduits and manholes. The extension will start at the breaker at Station B Substation and will continue west on Broadway to Harbor Drive. It will then head north on Harbor Drive to the CST on B Street Pier. The primary electrical infrastructure consists of the following equipment (see Part A on Figure 6 for equipment locations):
  - One 5-way Trayer switch, 2 capacitors, cables, and connectors – The Trayer switch and capacitors will be installed at the eastern edge of B Street Pier. The cables and connectors are associated with the equipment and will be part of the overall cable system required for the proposed Project.
  - Three 3-way Trayer switch, capacitor, cables, and connectors – The Trayer switch and capacitors will be installed at the eastern edge of B Street Pier. The cables and connectors are associated with the equipment and will be part of the overall cable system required for the proposed Project.
  - Four 5-inch conduits, one handhold on Broadway and intercept – The conduits will run between the B Street Pier and Broadway Pier.
  - Four 4-inch conduits – These conduits will run to the B Street Pier CST.
  - SDG&E Underground pull section (UGPS) (i.e., 42-inch × 96-inch × 96-inch) – The UGPS will be installed on the eastern end of B Street Pier (i.e., land side).
  - SDG&E Main (36-inch × 96-inch × 96-inch) – The Main will be installed on the eastern end of B Street Pier.
  - SDG&E Primary meter, 12 kV primary meter, cable, and connector – This equipment will be installed on the eastern end of B Street Pier.

- Four 5-inch conduits, one handhold on Broadway and intercept – The conduits will run from the Station B Substation to the B Street Pier CST.
  - One run of new 750 kcmil copper cable – This cable will run from Station B Substation to the B Street Pier CST.
  - One 50-foot SCDA antenna for signal – The antenna will be installed at the eastern end of B Street Pier, in between the two proposed Trayer switches.
- **Main Distribution Equipment:** The main distribution equipment includes the Primary and Secondary shore power system equipment located at the base of B Street Pier. The equipment is adjacent to the waterfront promenade and in between the B Street Pier parking entrance and exit driveways. It is located behind the existing security fence. The equipment ranges in height from 5 feet to 12 feet, and is approximately 68 feet in cumulative length. A safety perimeter barrier and fence will be constructed around the equipment line up. The equipment line up includes the 12 kV main circuit breaker, the two step-down transformers, the secondary circuit breaker, capacitors, and ground switches. All equipment, including the transformers, will be placed inside a 6-inch curb spill containment basin. The main distribution equipment consists of the following equipment (see Part B on Figure 6).
    - One capacitor (76-inch × 120-inch × 107-inch) – The capacitor will be installed at the eastern end of B Street Pier.
    - Three ground switches (48-inch × 96-inch × 96-inch) – The switches will be installed at the eastern end of B Street Pier, next to the capacitor.
    - Secondary 11 kV breaker (36-inch × 98-inch × 96-inch) – The secondary breaker will be installed at the eastern end of B Street Pier, next to the ground switches.
    - Secondary 6.6 kV breaker (36-inch × 98-inch × 96-inch) – The secondary breaker will be installed at the eastern end of B Street Pier, next to the 11 kV breaker.
    - Main equipment breaker (36-inch × 98-inch × 96-inch) – The main breaker will be installed at the eastern end of B Street Pier, next to the 6.6 kV breaker.
    - PTs/CTs station service panel cubicle (48-inch × 96-inch × 96-inch) – The cubicle will be located at the eastern end of B Street Pier next to the main equipment breaker.
    - Neutral grounding, automation control equipment (36-inch × 96-inch × 96-inch) – This equipment will be located at the eastern end of B Street Pier next to the PTs/CTs station service panel cubicle.
    - Two 20 mV, 12.47 kV sub-station transformers (165-inch × 145-inch, × 129-inch) – The sub-station transformers will be installed at the eastern end of B Street Pier. One transformer will be installed in Phase I and one in Phase II.
    - One battery charge transition cabinet (36-inch × 98-inch × 96-inch) – The battery charge transition cabinet will be located at the eastern end of B Street Pier next to one of the sub-station transformers.
    - One CPT panel (36-inch × 98-inch × 96-inch) – This panel will be located next to the battery charge transition cabinet at the eastern end of B Street Pier.

- One CUST main breaker (36-inch × 98-inch × 96-inch) – The main breaker will be installed next to the CPT panel at the eastern end of B Street Pier.
- One transition section (18-inch × 98-inch × 96-inch) – The transition section will be located in between the main breaker and the SDG&E meters on the land side of the B Street Pier.
- One outdoor National Electrical Manufacturer’s Association (NEMA) enclosure – The enclosure will contain the automation control equipment and neutral grounding, the service panel, the main and two secondary breakers, the three ground switches, and the capacitor on the eastern end of B Street Pier.

**Figure 6: General Schematic of Part A of Proposed Project Equipment Installation**



- **Conduit/Cable Infrastructure:** The conduit/cable infrastructure consists of the following:
  - Manhole to Ground Switch and Substation Transformer to Broadway Pier
    - Six 5-inch PVC conduits (concrete-encased)
    - Three 2-inch PVC conduits (concrete-encased)
    - One 3-inch neutral conduit (concrete-encased)
    - Two 16 conductor #16 control cable
    - One 4-pair multimode fiber cable
    - Two Ethernet cables
    - Nine 1c 750 MCM CU 15 kV EPR
  - Ground Switch to Jib Crane Power Cable Winch (typical of the three connections)
    - Two 16 conductor #16 control cable

- 
- One 4-pair multimode fiber cable
  - Two Ethernet cables
  - Ship Connection (typical of the three connections)
    - Two 16 conductor #16 control cable
    - One 4-pair multimode fiber cable
    - Two Ethernet cables
  - Station B Substation to Manhole on B Street Pier
    - Twelve 5-inch PVC conduits (concrete-encased)
    - Six 2-inch PVC conduits (concrete-encased)
    - Two 3-inch PVC neural conduits (concrete-encased)
    - Four-16 conductor #16 control cables
    - One 4-pair multimode fiber cable
    - Two Ethernet cables
  - **Cable Management and Required Controls:** The cable management system includes the following at the west ends of Broadway and B Street Piers (see Figure 7):
    - One grounding switch (48-inch × 96-inch × 96-inch) and jib crane with power cable winch (20-feet high) at B Street North.
    - One grounding switch (48-inch × 96-inch × 96-inch) and jib crane with power winch cable (20-feet high) at B Street South.
    - One grounding switch (48-inch × 96-inch × 96-inch) and jib crane with power winch cable (20-feet high) at Broadway North.
  - **Ship Connect Equipment:** The connection equipment, located at each berth on the west ends of Broadway and B Street Piers, is expected to consist of four power connectors and one neutral connection. The vessel modification is not included because the vessels for this application would be retrofitted off-site.

**Figure 7: General Schematic of Part A of Proposed Project Equipment Installation**

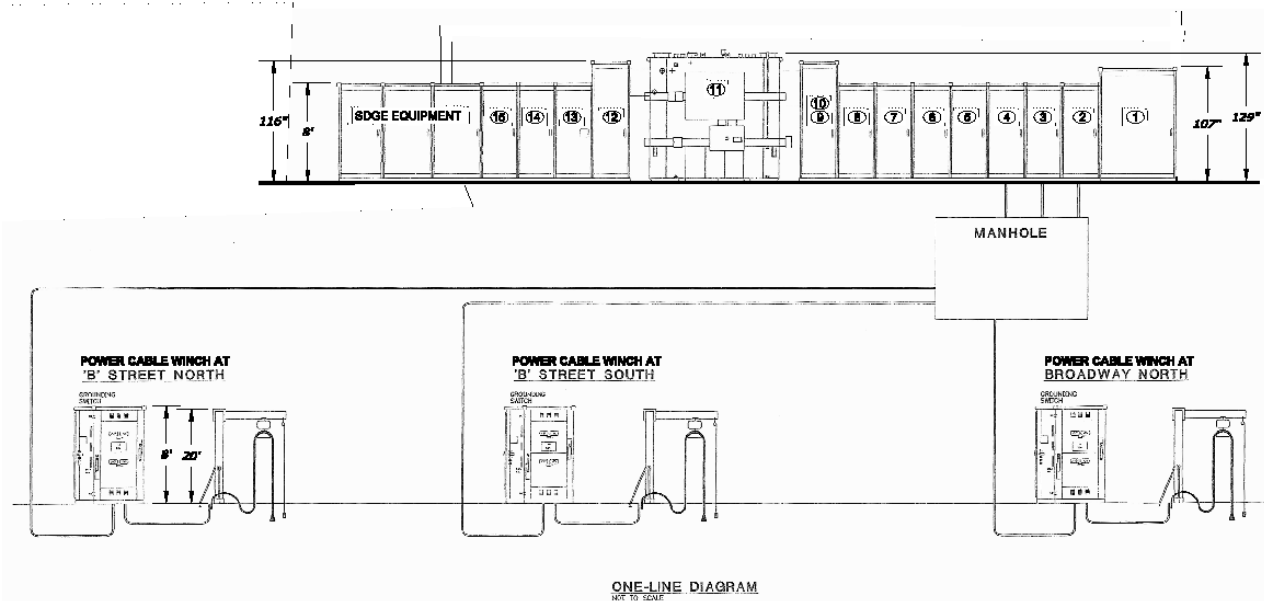


Figure 4 provides a general overview of the location of each piece of equipment to be installed on B Street and Broadway piers. Figures 6 and 7 show detailed schematics of the proposed equipment.

The electrical equipment must be located in close proximity to the B Street and Broadway piers, while at the same time minimizing impacts on cruise terminal operations. Thus, the equipment would be located at the east, or landward, end of the B Street Pier adjacent to the waterfront promenade. The primary electrical equipment necessary to connect a cruise ship to shore power, including the transformers and related equipment, requires approximately 2,100 square feet to serve one ship at a time at any of the three berths (Phase 1), and up to 3,600 square feet to serve two ships at a time at any of the three berths (Phase 2). The transformers would be up to 12 feet in height above the existing pier deck. A safety perimeter barrier would be constructed around the equipment at relevant electric code and SDG&E distances (SDG&E clearance requirements are from three feet on the sides to five feet on the back and eight feet to the front of standing power equipment). Implementation of the Project would affect and be affected by the Port District's North Embarcadero Visionary Plan (NEVP) Phase 1 Public Access Features Project, and SDG&E efforts to increase service capacity to the project sites, requiring coordination.

Minimal excavation is anticipated because only a few, small foundations are necessary to provide support for the proposed equipment. Soil excavation will occur along the western and southern edges of B Street Pier for cable and conduit installation between the piers, and at the end of both B Street Pier and Broadway Pier at the seawall. Additional soil excavation will occur along Broadway Street, and north along Harbor Drive to B Street Pier for cable and conduit installation from Station B Substation to the B Street Pier. Construction will generally take place in three places: at the property line by the existing utility metering equipment; in a path from the

property line to the main distribution equipment; and at the base of the B Street Terminal. Power cables to the three berth locations at B Street Pier and Broadway Pier will be routed from the shore power main equipment pad (behind fence on the Harbor Drive walkway at the B Street Pier) to two locations near the west end of B Street Pier and one location near the west end of Broadway Pier. The cables will be installed in two different configurations: 1) direct buried cables in which a portion of the cables will be installed in conduits that are buried directly from the equipment pad to the north and south sides of the B Street Pier; and 2) suspended cables in which the remaining portion of cables will be installed in conduit that is suspended to the underside of both piers from the head of the piers to the west end of the piers and the underside of the wharf between the B Street and Broadway Piers.

## 7.2 Construction Schedule

Implementation of the proposed project requires construction including (1) pavement demolition and removal; (2) construction of equipment foundations and pads; (3) installation of the electric primary infrastructure from the utility metering equipment to the main distribution equipment; (4) installation of the main distribution equipment including a main circuit breaker, step-down transformers, secondary circuit breaker, capacitor bank, and cable management systems; (5) installation of additional switching, power conditioning, and power control equipment; (6) installation of cables and cable connectors to transfer information and power between the ship and shore-side equipment; and (7) excavation to install buried conduits containing cables for transmission of electricity to the Project site. Table I-2 outlines the proposed construction schedule for installation of the Project equipment. The schedule for each construction activity listed below is not expected to overlap except for SDG&E trench excavation as indicated in the note for Table I-2. The construction activities will be conducted during distinct time periods and will disturb substantially less than one acre of land within the facility, which covers approximately 0.08 acres.

Although some of the construction activities will be occurring on the piers, the activities will not disrupt current operations at the CST. All construction will be conducted to minimize interference with operations at the Port. For example, if two ships dock at B Street Pier at the same time, then construction on that pier will be halted so operations are not affected.

**Table I-2 Construction Schedule**

| <b>Construction Activity</b>   | <b>Estimated Number of Days for Completion</b> |
|--|--|
| Construction 1a: Demolition and excavation for equipment compound            | 20   |
| 1b: Demolition and excavation for conduit trenching                          | 20   |
| 1c: Demolition and excavation for ground switch/jib                          | 8  |
| Construction 2a: Backfill/compacting/paving for equipment compound (pads)    | 15   |
| 2b: Backfill/compacting/paving for conduit (trench backfill and restoration) | 15   |
| 2c: Backfill/compacting/paving for ground switch                             | 10   |
| Construction 3: Equipment delivery and installation                          | 20   |
| Construction 4a: Excavation for SDG&E conduit trenching*                     | 40*  |
| 4b: Backfill/compacting/paving for conduit (trench backfill and restoration) | 20   |
| <b>Total Construction Days Required</b>                                      | <b>128</b>                                     |

\* Construction 4a will be concurrent with Construction 3 (20 of 40 days) and Construction 4b (20 of 40 days)



## Chapter 2 Environmental Checklist

### 1 Potentially Significant Impact Areas

The following environmental impact areas have been assessed to determine their potential to be affected by the project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be significantly adversely affected by the project, even with mitigation. An explanation relative to the determination of impacts can be found following the checklist for each area.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Aesthetics                 | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality                        |
| <input type="checkbox"/> Biological Resources       | <input type="checkbox"/> Cultural Resources               | <input type="checkbox"/> Geology/Soils                      |
| <input type="checkbox"/> Greenhouse Gas Emissions   | <input type="checkbox"/> Hazards & Hazardous Materials    | <input type="checkbox"/> Hydrology/<br>Water Quality        |
| <input type="checkbox"/> Land Use/Planning          | <input type="checkbox"/> Mineral Resources                | <input type="checkbox"/> Noise                              |
| <input type="checkbox"/> Population/Housing         | <input type="checkbox"/> Public Services                  | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Transportation/<br>Traffic | <input type="checkbox"/> Utilities/Service Systems        | <input type="checkbox"/> Mandatory Findings of Significance |

### 2 Determination

On the basis of this initial evaluation:

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

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

### 3 Environmental Checklist & Discussion

| I. <b>AESTHETICS.</b> Would the project:   | Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation<br>Incorporation | Less Than<br>Significant            | No Impact                           |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
|  |                                      |   | Impact                              |                                     |
| a) Have a substantial adverse effect on a scenic vista?  | <input type="checkbox"/>             | <input type="checkbox"/>  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/>             | <input type="checkbox"/>  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?  | <input type="checkbox"/>             | <input type="checkbox"/>  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                    | <input type="checkbox"/>             | <input type="checkbox"/>  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

#### 1.1 Environmental Setting and Impacts

##### Existing Visual Quality and Character

The proposed Project site is located at 1140 and 1000 North Harbor Drive adjacent to the waterfront promenade at the northern end of the San Diego Bay in the City of San Diego. Although the entire San Diego bayfront is regarded as a regionally significant scenic resource, the most significant public views to San Diego Bay are the street-level views from North Harbor Drive, Broadway, and the Broadway Pier. The end of Broadway Pier is identified as a PMP designated vista area. No other vistas have been identified by the PMP in the area surrounding the proposed Project site. The NEVP proposed to redevelop existing areas within North Embarcadero with a variety of uses to re-establish the North Embarcadero area as an active, vibrant area with uses and amenities that celebrate and attract people to the San Diego waterfront. The NEVP encompasses a set of public infrastructure improvements for the area bordered by Market Street on the south, Laurel Street to the north, the railroad right-of-way to the east, and the San Diego Bulkhead line (the bayward edge of land) to the west, in downtown San Diego. The NEVP is designed to shape the future of San Diego by joining downtown and the bay. The NEVP only identifies one view corridor along Pacific Coast Highway south of Broadway and proposes the extension of B Street to establish a new east-west view corridor to connect between downtown and the waterfront.

The B Street Pier currently supports a large one-story building utilized as the CST. Development in the area immediately adjacent to the B Street Pier is characterized by a variety of low- and mid-rise uses. Directly north of the B Street Pier is open water, Anthony's Fish Grotto, the Star of India, and the San Diego Maritime Museum. These are all small-scale commercial recreational uses that extend out in to the San Diego Bay. The Broadway Pier and the USS

Midway are located to the south. Lane Field, U.S. Navy buildings and the Holiday Inn are located to the east and create a series of high- and low-rise structures that have been constructed over several decades, resulting in a seemingly disjointed collection of buildings that are not visually linked or designed to create a cohesive identity within the area.

The character of the existing view on and adjacent to B Street Pier is commercial marine operations. The view from the B Street Pier provides an extremely limited view of San Diego Bay. As can be seen in Figures 8 through 12, the buildings mentioned above, together with associated structural elements such as fences and signage, result in narrow, interrupted view corridors with minimal views of the bay. The dominant components of the view from the promenade are the sprung tent structures on the south side of B Street Pier and the main CST structure on the north side. Boats anchored along the bayshore, with the extreme example of the USS Midway, also restrict views. Disparate vertical elements, such as boat masts, flagpoles, and lighting standards, are common elements in any view. Views are currently experienced by pedestrians and motorists passing by the B Street Pier. No views of the Bay or open waters of the Bay are currently available adjacent to or across from the east end of B Street Pier. There are no scenic vistas designated in the PMP on or adjacent to the B Street Pier.

The Broadway Pier has a designated scenic vista per the PMP. The facilities proposed on Broadway Pier consist of equipment items only and would be consistent with equipment types and sizes used for current cruise ship operations historically.

### **Project Viewer Groups**

The proposed Project is anticipated to affect two specific groups of viewers: pedestrian and vehicular. The pedestrian viewer group is composed of visitors to the waterfront promenade, including people who live and work in the downtown area, and patrons of the cruise ships, ferries, tour cruises, maritime museum, and waterfront restaurants. The vehicular viewer group is primarily composed of bicyclists, motorists, and passengers on public transit, tour buses and taxis traveling north and south along North Harbor Drive.

Pedestrian viewers are considered to have a high degree of viewer sensitivity to change in existing visual character or quality due to the typical distance, angle of observation, and duration of their views. Vehicular viewers are considered to have a low to moderate sensitivity to change due primarily to the greater distance and shorter duration of their views.

Pedestrians would experience longer duration foreground views of the proposed Project. Vehicular viewers traveling along North Harbor Drive would experience short-duration, foreground views of the proposed Project. Both viewer groups would be exposed to the visual change, but the proposed Project improvements are consistent with the surrounding visual environment of a working waterfront. Representative views associated with these viewer groups are illustrated in Figures 8 through 11.

### **Project Impacts**

Although the proposed Project would introduce new equipment and associated enclosures, it will not impede pedestrian linkages or the access along the waterfront because it would be located on B Street Pier behind the existing security fence. The implementation of the proposed Project would not impact the views from the designated vista area at the Broadway Pier or the

associated public access to the waterfront, though the proposed jib crane (with a maximum extended height of 20 feet) would be a noticeable addition to the Broadway Pier. Cable connectors and related electric jib cranes located at each berth would be among other ship service equipment and is consistent with the expected appearance of terminal operations. The SCADA antenna (between 25 and 50 feet in height) would also introduce a new visual element. Mechanical equipment would not constitute an undue or detrimental change to existing visual quality.

The existing B Street Pier is located north of the proposed east-west view corridor at B Street, as identified in the NEVP; therefore, the proposed Project site would not obstruct the potential views or public access to the waterfront associated with the proposed B Street view corridor. As detailed below, the proposed Project would not significantly change the existing skyline, alter the scale of the development along the waterfront, or obstruct views of the bay, as no unobstructed view currently exists in this location.

The proposed perimeter fence that would enclose the shore power transformers would be a maximum of 12 feet in height and 80 feet in length. The structures to house the shore power equipment on B Street Pier will combine to be approximately 70 feet in length, 40 feet in width, 10 feet in height, and would occupy between 2,100 and 3,600 square feet (See Figures 4 and 6). Currently, the metal security fence that runs adjacent to the pedestrian walkway parallel to North Harbor Drive physically divides B Street Pier from the public. The existing security fence consists of iron bars with a spacing of 8 inches, to which a wire meshing system is attached to further reduce spacing between fence components. A new security fence is proposed, the concept for which is for a metal grid fence with approximately two-inch squares within which hanging and spinning metal circles will be provided to create a feature of interest. The spinning metal circles will be sporadic; when screening is necessary they will be densely used (such as in front of the shore power utility) and more sparsely used where no screening is necessary (such as at the margins of the pier).

The proposed transformer structure would be located on the B Street Pier behind replacement security fencing. The replacement fencing is being designed with a public artist to create a pleasing and interesting feature that also screens the bland utility of the shore power housing structure as described above. The existing CST building, located north of the proposed Project site on B Street Pier, is significantly larger in mass and taller than the proposed equipment and associated enclosure. Additionally, a semi-permanent structure is located west of the proposed Project, at the end of the B Street Pier, and obstructs views to the bay (see Figure 12). Currently, an electronic marquee is located on B Street Pier between the security fence and the location of the proposed Project. Future plans include removing this electronic marquee and relocating it to an undetermined location. The proposed structure is smaller than the existing operational structures on the B Street Pier, though it will be closer to the promenade where viewers pass. As shown in Figure 13, the shore power housing structure will appear to be a similar height and mass as other operational components on B Street Pier. No views of open water will be obstructed as a result of the structure and no scenic vistas will be affected. The character of the view will remain commercial marine operations. A fence that provides necessary security and safety protection is under design that will also provide a feature of interest to passing pedestrians. Pedestrians will be able to see through the proposed fence, as

they see through the existing fence, except where the shore power housing structure is situated. Therefore, construction of the proposed Project would not significantly impact the aesthetic views of the Pier.

New vertical elements introduced at the B Street Pier would include several 20-foot tall jib cranes and the SCADA antenna. The latter would be between 25 and 50 feet in height. Given the backdrop of existing vertical elements, which include boat masts, flagpoles, and light standards, as well as the vertical elements of the CST structure, these new vertical features will not result in an appreciable change in views along the pier.

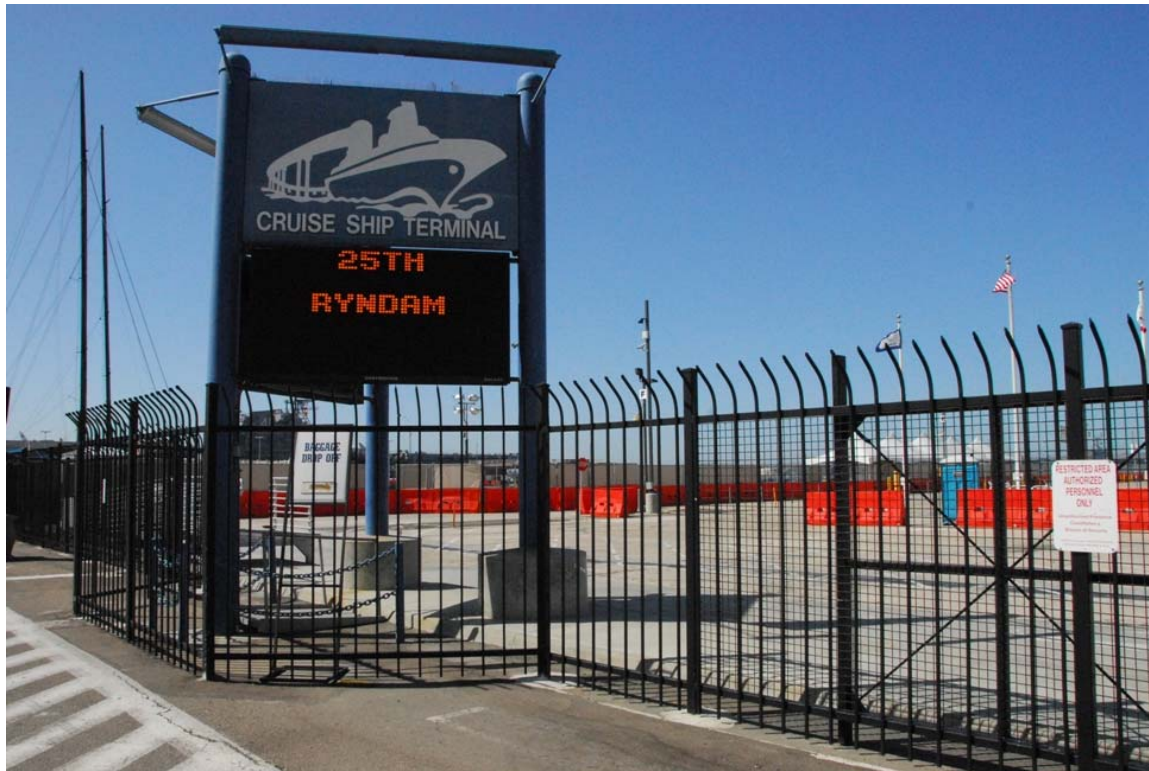
In addition as discussed above, the Broadway Pier has a designated scenic vista per the PMP. However, the facilities proposed on Broadway Pier consist of equipment items only and would be consistent with equipment types and sizes used for current cruise ship operations historically. The proposed items of equipment would not have a significant adverse impact on that vista.

The proposed Project would not result in a significant change in the scale of development or visual quality of the proposed Project site and surroundings. The proposed shore power transformer structure will not have a substantial adverse effect on views of San Diego Bay or other scenic vista and will not substantially degrade the visual character or quality of the Project site or its surroundings. No substantial changes to the natural landform would occur. No existing buildings would be removed or demolished. Some pavement demolition and removal will be required on B Street Pier to construct electrical equipment foundations and along North Harbor Drive to install SDG&E cables. Excavation within the equipment pad footprint to relocate existing underground utilities, and install conduit cables, pull boxes, cable jigs and other ancillary system equipment, would also occur. However, the impacts from the proposed Project would be less than significant as it relates to scenic vistas and existing visual character. The proposed Project would not damage existing scenic resources and thus, would not have a significant impact on the environment under this criterion.

## **1.2 Mitigation Measures**

The proposed Project would not result in significant impacts associated with aesthetics and thus, mitigations measures are not required.

**Figure 8: View of Eastern End of B Street Pier and Sign for CST (Facing Southwest)**



**Figure 9: View of Eastern End of B Street Pier and Sign for CST (Facing Northwest)**



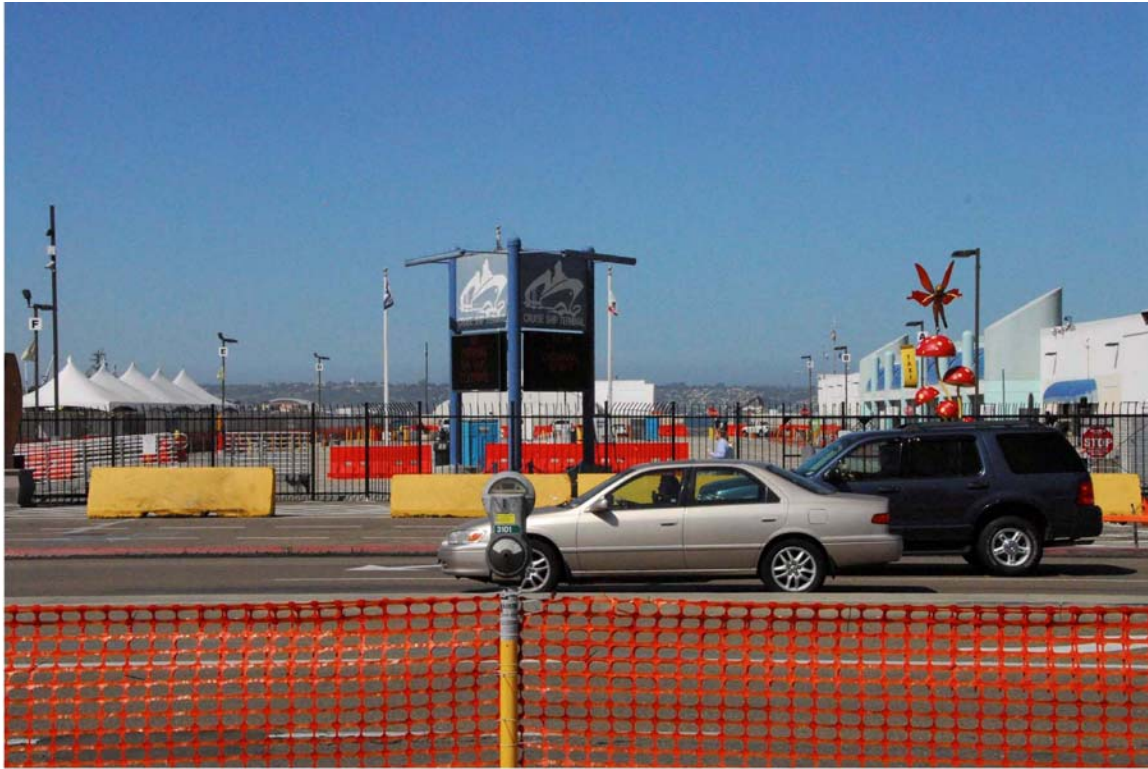
**Figure 10: View of Eastern End of B Street Pier and Sign for CST from Harbor Drive (Facing Due West)**



**Figure 11: View of Eastern End of B Street Pier and Sign for CST from Harbor Drive (Facing Due West)**



**Figure 12: Existing View From Harbor Drive Facing West**



**Figure 13: View From Harbor Drive Facing West with Simulation of Proposed Fence**





|  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|--|--------------------------------|---|------------------------------|-------------------------------------|
| <b>II. AGRICULTURE AND FOREST RESOURCES.</b> Would the project:  |                                |   |                              |                                     |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526)?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?                                    | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## 2.1 Environmental Setting and Impacts

### Farmland and Forest Use

The proposed Project will be located in a highly urbanized area of downtown San Diego. There are no agricultural resources (i.e., food crops grown for commercial purposes), forests or timberlands located in or near the vicinity of the B Street and Broadway piers. In addition, the proposed Project will not involve construction outside of the existing boundaries of the Port. The zoning of the Port will remain Marine Terminal, Commercial Recreation, Park/Plaza and Promenade. Therefore, the proposed Project will have no significant adverse impacts on agricultural resources or forest use, or conflict with zoning for agriculture, forest land or timberland, or Williamson Act contracts. The proposed Project will not result in the loss or conversion of farmland or forest land to non-agricultural or non-forest land uses, respectively. In addition, the proposed Project will not involve other changes to the existing environment which could result in conversion of farmland or forest land to non-agricultural or non-forest use, respectively.

## **2.2 Mitigation Measures**

There are no impacts of the proposed Project on agricultural, forest land or timberland resources and therefore, no mitigation measures are required.

|   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| <b>III. AIR QUALITY.</b> Would the project:   |                                |   |                                     |                                     |
| a) Conflict with or obstruct implementation of the applicable air quality plan?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute to an existing or projected air quality violation?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment status under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Expose sensitive receptors to substantial pollutant concentrations?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Create objectionable odors affecting a substantial number of people?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### 3.1 Environmental Setting and Impacts

#### Environmental Setting

The SDAPCD is directly responsible for reducing emissions from stationary (area and point) sources in San Diego County. As part of this responsibility, the SDAPCD has prepared the San Diego Regional Air Quality Strategy (RAQS) that outlines plans and control measures designed to attain the California Ambient Air Quality Standards (CAAQS) for ozone (O<sub>3</sub>). In addition, the SDAPCD's federally-enforceable control measures for ozone-precursors are included in the State Implementation Plan (SIP), which was adopted by CARB to ensure attainment of the National Ambient Air Quality Standards (NAAQS) for O<sub>3</sub>. The CAAQS and NAAQS are summarized in Table III-1. The proposed Project area is located within the San Diego Air Basin (Basin), which is contiguous with San Diego County. The Basin currently exceeds and is in violation of the NAAQS listed in Table III-1 for O<sub>3</sub> and the CAAQS for O<sub>3</sub>, particulate matter less than 10 microns (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>).

**Table III-1 Most Stringent Ambient Air Quality Standards for Criteria Pollutants**

| <b>Pollutant/Averaging Time</b> | <b>Most Stringent Standard</b> | <b>San Diego Air Basin Attainment Status</b> |
|---------------------------------|--------------------------------|--|
| O <sub>3</sub>                  |                                |  |
| 1-hour                          | 0.09 ppm (state)               | Non-attainment                               |
| 8-hour                          | 0.070 ppm (state)              | Non-attainment                               |
| NO <sub>2</sub>                 |                                |  |
| 1-hour average                  | 0.18 ppm (state)               | Attainment                                   |
| Annual average                  | 0.030 ppm (state)              | Attainment                                   |
| PM <sub>10</sub>                |                                |  |
| 24-hour average                 | 50 µg/m <sup>3</sup> (state)   | Non-attainment                               |
| Annual average                  | 20 µg/m <sup>3</sup> (state)   | Non-attainment                               |
| PM <sub>2.5</sub>               |                                |  |
| 24-hour average                 | 35 µg/m <sup>3</sup> (federal) | Non-attainment                               |
| Annual average                  | 12 µg/m <sup>3</sup> (state)   | Non-attainment                               |
| SO <sub>2</sub>                 |                                |  |
| 1-hour average                  | 0.25 ppm (state)               | Attainment                                   |
| 24-hour average                 | 0.04 ppm (state)               | Attainment                                   |
| Annual average                  | 0.030 ppm (federal)            | Attainment                                   |
| CO                              |                                |  |
| 1-hour average                  | 20 ppm (state)                 | Attainment                                   |
| 8-hour average                  | 9.0 ppm (state/federal)        | Attainment                                   |

The proposed Project consists of both construction and operation activities. Construction activities will include construction/installation of the electrical equipment necessary to supply shore power to the cruise ships, as well as installation of cables in buried conduits for electricity transmission to the project site. Operational activities will involve the cruise ships using shore power versus on-board engines while at berth. Because these activities do not occur at the same time, the emissions will be evaluated separately. The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related impacts. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA) trigger levels or screening level thresholds (SLTs) for new or modified stationary sources in Rules 20.2 (New Source Review: Non-Major Stationary Source) and 20.3 (New Source Review: Major Stationary Source). For comparative purposes, the County of San Diego Guidelines (Significance Guidelines) recommends using these SLTs to evaluate the potential emissions increase from a proposed land development project (County of San Diego, 2007). The SDAPCD does not include an SLT for volatile organic compounds (VOCs) or PM<sub>2.5</sub>. As recommended in the Significance Guidelines, VOC and PM<sub>2.5</sub> SLTs were based on levels suggested by the South Coast Air Quality Management District (SCAQMD) and Environmental Protection Agency (EPA). These thresholds are summarized in Table III-2. To assess the impacts of project-related construction and operational emissions, the construction emissions will be compared to the daily SLT and the operational emissions will be compared to the annual and daily significance criteria. Additionally, emissions of toxic air contaminants (TACs) will be analyzed for potential significance. Construction and operational emissions from the proposed Project that are below these thresholds will be considered less than significant.

**Table III-2 Air Quality Significance Thresholds**

| <b>Screening Level Thresholds</b> |   |                          |
|-----------------------------------|---|--------------------------|
| <b>Pollutant</b>                  | <b>Daily (lb/day)</b>   | <b>Annual (ton/year)</b> |
| NO <sub>x</sub>                   | 250   | 40                       |
| VOC                               | 75  | 13.7                     |
| PM <sub>10</sub>                  | 100   | 15                       |
| PM <sub>2.5</sub>                 | 55  | 10                       |
| SO <sub>x</sub>                   | 250   | 40                       |
| CO                                | 550   | 100                      |
| Lead                              | 3.2   | 0.6                      |
| <b>TAC and Odor Thresholds</b>    |   |                          |
| Toxic Air Contaminants (TACs)     | Maximum Incremental Cancer Risk $\geq 10$ in 1 million<br>Hazard Index $\geq 1.0$ (project increment) |                          |
| Odor                              | Project creates a minimal odor nuisance pursuant to SDAPCD Rule 51                                    |                          |

PM<sub>10</sub> = particulate matter less than 10 microns in size,  $\mu\text{g}/\text{m}^3$  = microgram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; AHM = Acutely Hazardous Material. NO<sub>2</sub> = Nitrogen Oxide, CO = Carbon Monoxide, VOC = Volatile Organic Compounds, SO<sub>x</sub> = Sulfur Oxide.

## Impacts Analysis

### Construction Emissions Calculations

Construction typically occurs in phases, consisting of demolition, site preparation, construction of structures, and final site work. Construction activities required to implement the proposed Project include the following: (1) pavement demolition and removal; (2) construction of equipment foundations and pads; (3) installation of the electric primary infrastructure from the utility metering equipment to the main distribution equipment; (4) installation of the main distribution equipment including a main circuit breaker, step-down transformers, secondary circuit breaker, capacitor bank, and cable management systems; (5) installation of additional switching, power conditioning, and power control equipment; (6) installation of cables and cable connectors to transfer information and power between the ship and shore-side equipment, and (7) excavation to install buried conduits containing cables for transmission of electricity to the Project site.

Some offsite fabrication of equipment will be necessary, but the very small emissions associated with those activities are not included in this analysis because they may occur outside of California or because insufficient information is available to characterize emissions for this specific equipment. Minimal excavation is anticipated because only a few, small foundations are necessary to provide support for the new proposed equipment. Soil excavation will occur along the western and southern edges of B Street Pier for cable and conduit installation, and at the end of both B Street Pier and Broadway Pier at the seawall. Additional exaction will occur along the western section of Harbor Drive for transmission of electricity to the proposed Project site. The construction activities will be conducted during distinct time periods and will disturb substantially less than one acre of land within the facility, which covers approximately 0.08 acres.

**Table III-3 Construction Emissions Summary Table**

| Construction Activity   | Number of Days | Emissions (lb/day) |            |           |                               |                                |                 |
|---|----------------|--------------------|------------|-----------|-------------------------------|--------------------------------|-----------------|
|   |                | NO <sub>x</sub>    | CO         | VOC       | PM <sub>10</sub> <sup>1</sup> | PM <sub>2.5</sub> <sup>1</sup> | SO <sub>2</sub> |
| <b>Construction 1: Demo/excavation<sup>2</sup></b>                      |                |                    |            |           |                               |                                |                 |
| 1a: Equipment compound  | 20             | 38.98              | 17.88      | 4.91      | 2.74                          | 2.74                           | 0.04            |
| 1b: Conduit trenching   | 20             | 38.98              | 17.88      | 4.91      | 2.53                          | 2.53                           | 0.04            |
| 1c: Ground switch/jib   | 8              | 38.98              | 17.88      | 4.91      | 2.61                          | 2.61                           | 0.04            |
| <b>Construction 2: Backfill/compacting/ paving<sup>3</sup></b>          |                |                    |            |           |                               |                                |                 |
| 2a: Equipment compound  | 15             | 21.27              | 10.62      | 3.10      | 1.86                          | 1.86                           | 0.02            |
| 2b: Conduit trenching   | 15             | 39.63              | 19.11      | 5.29      | 2.60                          | 2.60                           | 0.05            |
| 2c: Ground switch   | 10             | 50.19              | 22.55      | 6.43      | 3.09                          | 3.09                           | 0.06            |
| <b>Construction 3: Equipment delivery and Installation<sup>4</sup></b>  |                |                    |            |           |                               |                                |                 |
|   | 20             | 5.63               | 2.64       | 0.94      | 0.29                          | 0.29                           | 0.01            |
| <b>Construction 4: SDG&amp;E Cables/Trench Installation<sup>5</sup></b> |                |                    |            |           |                               |                                |                 |
| 4a: Conduit excavation  | 40             | 38.98              | 17.88      | 4.91      | 3.39                          | 3.39                           | 0.04            |
| 4b: Conduit trenching   | 20             | 39.63              | 19.11      | 5.29      | 3.47                          | 3.47                           | 0.05            |
| <b>Concurrent Phases<sup>6</sup></b>                                    |                |                    |            |           |                               |                                |                 |
| Concurrent 3 and 4a <sup>6</sup>  | 20             | 44.61              | 20.52      | 5.85      | 2.68                          | 2.68                           | 0.05            |
| Concurrent 4a and 4b <sup>6</sup>                                       | 20             | 78.61              | 36.99      | 10.20     | 5.03                          | 5.03                           | 0.09            |
| <b>Significance Threshold</b>   |                | <b>250</b>         | <b>550</b> | <b>75</b> | <b>100</b>                    | <b>55</b>                      | <b>250</b>      |
| <b>Significant?</b>   |                | <b>No</b>          | <b>No</b>  | <b>No</b> | <b>No</b>                     | <b>No</b>                      | <b>No</b>       |

<sup>1</sup> The PM emissions shown include emissions resulting from both combustion as well as fugitive dust. See Appendix A and B for details.

<sup>2</sup> Anticipated equipment includes a skid steer loader, backhoe, saw cutter, dump truck, air compressor, and wheel loader.

<sup>3</sup> Anticipated equipment includes a skid steer loader, backhoe, saw cutter, dump truck, wheel loader, air compressor, concrete and A.C. trucks, vibratory compactor, and welding generator.

<sup>4</sup> Anticipated equipment includes a tractor trailer, crane, and welding generator. Because the tractor trailer results in on-road emissions generated off-site, the emissions are not included in this analysis.

<sup>5</sup> Anticipated equipment includes a skid steer loader, backhoe, saw cutter, dump truck, air compressor, wheel loader, concrete and A.C. trucks, vibratory compactor, and welding generator.

<sup>6</sup> Phase 4a occurs while Phase 3 and 4b are occurring. Half of Phase 4a (i.e., 20 days) will overlap with the 20 days of Phase 3, while the remaining period (i.e., 20 days) will overlap with the 20 days of Phase 4b. Construction Phases 3, 4a, and 4b will thus occur over a total of 40 days. The emissions are assumed to be the sum of emissions from each individual phase.

Construction emissions are generated from the combustion of fuel (primarily diesel) in off-road vehicles and other equipment required for the construction activities and from fugitive dust due to activities disturbing soil. The emissions resulting from construction activities (Table III-3) represent a minor, temporary increase in criteria pollutants. Emissions were calculated using the model Offroad 2007 (CARB, 2007b), an emissions inventory model published by CARB that calculates emissions from off-road vehicles. Construction will occur over a period of approximately 6 months. Not all days will require the use of construction equipment, and work is not programmed to be undertaken on weekends. A total of 128 days of actual construction equipment use is projected. The greatest emissions from construction (concurrent construction

activities 4a and 4b) occur for a total of 20 days. As shown in Table III-3, the maximum daily emissions for each phase are less than the daily significance thresholds in Table III-2 and thus emissions resulting from construction activities are less than significant. Details of the emission calculations are included in Appendix A.

### ***Operational Emissions Calculations***

Operational emissions result from direct emissions from combustion of MDO while ships are running on auxiliary engines during connection and disconnection from the shore power, and indirect emissions from electricity usage while ships are connected to shore power. Combustion emissions were calculated using emission factors obtained from, and the emissions methodology outlined in, "Emissions Estimation Methodology for Ocean Going Vessels" (CARB, 2008). Emission factors for indirect emissions were obtained from the above-referenced CARB document as well as the "Emissions and Generation Resource Integrated Database" (eGRID, EPA).

To obtain the incremental impact of the proposed Project, annual (Table III-4) and daily (Table III-5) operational emissions from each phase of the proposed Project were compared to baseline emissions. The only shore-power capable ships that are presently scheduled to visit the Port in 2009 to 2010 are the Dawn Princess, the Oosterdam, and the Westerdam. The analysis focused on these three ships because the proposed Project will not impact the ships that are not capable of using shore power. This conservative analysis only accounts for the emissions for the ships that are currently capable of shore power.

The number of ships that will visit the Port in 2009, as well as during the anticipated Phases 1 and 2 completion dates of 2010 and 2017, is not known. An analysis of available cruise ship schedule information on anticipated ship calls for 2008 through 2010 indicates that there will be fewer calls by the shore-power capable ships, as well as all ships, in 2009 and 2010 as compared to 2008. This is consistent with the current downturn in economic conditions but may not be representative of future conditions after completion of the proposed Project phases. As a result, this analysis uses 2008 data (the last year that complete information was available) to determine CEQA base year emissions from the three shore power capable ships. For the proposed Project, emissions from the three ships are calculated assuming one ship at berth can utilize shore power in Phase 1 (i.e., year 2010) and assuming two ships at berth can utilize shore power in Phase 2 (i.e., year 2017). Because none of the three ships visited, or are scheduled to visit, the Port on the same day from 2008 to 2010, Phase 1 and Phase 2 emissions are the same. If the ships did dock on the same day, Phase 2 reductions would be greater than Phase 1 reductions.

For all calculations, it is assumed that each cruise ship will spend one hour hooking up to and one hour disconnecting from shore power, during which the ships will use on-board engines; this is a conservative assumption because connections/disconnections are generally made in a shorter time period and maximum connect/disconnect times minimize potential emission reductions. Details of the emission calculations are included in Appendix B.

The proposed Project results in a decrease in both annual and daily emissions of all criteria pollutants (Tables III-4 and III-5). The reductions range from 56% (PM<sub>2.5</sub>) to 82% (NO<sub>x</sub>)

compared to the baseline. All emissions are below the annual and daily SLTs. As noted above, Phase 1 and Phase 2 emissions are the same based on the 2008 Port Calendar and thus, the incremental emissions reduction are the same.

**Table III-4 Annual Emissions Summary Table for the Three Ships Currently Capable of Using Shore Power**

| Emissions  | Emissions (tons/yr) |            |             |                  |                   |                 |
|--|---------------------|------------|-------------|------------------|-------------------|-----------------|
|  | NO <sub>x</sub>     | CO         | VOC         | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> |
| Baseline <sup>1</sup>                              | 64.20               | 5.08       | 2.40        | 1.76             | 1.62              | 9.70            |
| Project - Phase 1 <sup>2</sup>                     | 11.75               | 1.22       | 0.63        | 0.73             | 0.71              | 2.72            |
| <i>Incremental difference (Phase 1 - Baseline)</i> | -52.45              | -3.87      | -1.78       | -1.02            | -0.91             | -6.98           |
| Project - Phase 2 <sup>3</sup>                     | 11.75               | 1.22       | 0.63        | 0.73             | 0.71              | 2.72            |
| <i>Incremental difference (Phase 2 - Baseline)</i> | -52.45              | -3.87      | -1.78       | -1.02            | -0.91             | -6.98           |
| <b>Significance Threshold</b>                      | <b>40</b>           | <b>100</b> | <b>13.7</b> | <b>15</b>        | <b>10</b>         | <b>40</b>       |
| <b>Significant?</b>                                | <b>No</b>           | <b>No</b>  | <b>No</b>   | <b>No</b>        | <b>No</b>         | <b>No</b>       |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 1 will occur in 2010 and will allow 1 out of a maximum potential of 3 ships at berth simultaneously to operate on shore power. Phase 1 emissions are based on 2008 ship call information with shore power available at one berth at any given time.

<sup>3</sup> Phase 2 will occur in 2017 and will allow 2 out of a maximum potential of 3 ships in berth simultaneously to operate on shore power. Since the ships are not at berth at the same time on a single day in 2008 (and are not project to be in 2009 or 2010), Phase 1 and Phase 2 emissions are the same. Phase 2 emissions would be smaller if two ships capable of using shore power called on the same day(s).

**Table III-5 Daily Emissions from One Ship of the Three Ships Currently Capable of Using Shore Power**

| Emissions  | Daily Emissions (lbs/day) |            |           |                  |                   |                 |
|--|---------------------------|------------|-----------|------------------|-------------------|-----------------|
|  | NO <sub>x</sub>           | CO         | HC        | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> |
| Baseline (1 ship) <sup>1</sup>                     | 2517.6                    | 199.2      | 94.2      | 68.8             | 63.4              | 380.4           |
| Project -Phase 1 <sup>2</sup>                      | 460.7                     | 47.7       | 24.5      | 28.8             | 27.8              | 106.7           |
| <i>Incremental difference (Phase - Baseline)</i>   | -2056.9                   | -151.6     | -69.7     | -40.0            | -35.6             | -273.6          |
| Project - Phase 2 <sup>3</sup>                     | 460.7                     | 47.6       | 24.5      | 28.8             | 27.8              | 106.7           |
| <i>Incremental difference (Phase 2 - Baseline)</i> | -2056.9                   | -151.6     | -69.7     | -40.0            | -35.6             | -273.6          |
| <b>Significance Threshold</b>                      | <b>250</b>                | <b>550</b> | <b>75</b> | <b>100</b>       | <b>55</b>         | <b>250</b>      |
| <b>Significant?</b>                                | <b>No</b>                 | <b>No</b>  | <b>No</b> | <b>No</b>        | <b>No</b>         | <b>No</b>       |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 1 will occur in 2010 and will allow 1 out of a maximum potential of 3 ships at berth simultaneously to operate on shore power. Phases 1 emission are based on 2008 ship call information with shore power available at one berth at any given time.



<sup>3</sup> Phase 2 will occur in 2017 and will allow 2 out of a maximum potential of 3 ships in berth simultaneously to operate on shore power. Since the ships are not at berth at the same time on a single day in 2008 (and are not project to be in 2009 or 2010), Phase 1 and Phase 2 emissions are the same. Phase 2 emissions would be smaller if two ships capable of using shore power called on the same day(s).

Based on the current ship calendar, the three shore power capable ships are not at berth on the same day. Although this does not presently occur, for completeness, the below analysis considered the scenario in which all three shore-power capable ships were at berth at the same time. Under this scenario, one of the three ships would be on shore power during Phase 1 and two of the three ships would be on shore power during Phase 2. As shown in Table III-6, the three ships at berth scenario results in an emissions reduction ranging from 19% (PM<sub>2.5</sub>) to 27% (NO<sub>x</sub>) for Phase 1 and from 37% (PM<sub>2.5</sub>) to 54% (NO<sub>x</sub>) for Phase 2 relative to the baseline. Note that these emissions are still well below the daily SLTs.

**Table III-6 Daily Emissions for the Three Ships Currently Capable of Using Shore Power**

| Emissions  | Worst-case Daily Emissions (lbs/day) |             |             |                  |                   |                 |
|--|--------------------------------------|-------------|-------------|------------------|-------------------|-----------------|
|  | NO <sub>x</sub>                      | CO          | HC          | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> |
| Baseline (three ships) <sup>1</sup>                | 7,553                                | 598         | 283         | 206              | 190               | 1,141           |
| Phase 1 <sup>2</sup>                               | 5,496                                | 446         | 213         | 166              | 155               | 867             |
| <i>Incremental difference (Phase - Baseline)</i>   | <i>-2,057</i>                        | <i>-152</i> | <i>-70</i>  | <i>-40</i>       | <i>-36</i>        | <i>-274</i>     |
| Phase 2 <sup>3</sup>                               | 3,439                                | 295         | 143         | 126              | 119               | 594             |
| <i>Incremental difference (Phase 2 - Baseline)</i> | <i>-4,114</i>                        | <i>-303</i> | <i>-139</i> | <i>-80</i>       | <i>-71</i>        | <i>-547</i>     |
| <b>Significance Threshold</b>                      | <b>250</b>                           | <b>550</b>  | <b>75</b>   | <b>100</b>       | <b>55</b>         | <b>250</b>      |
| <b>Significant?</b>                                | <b>No</b>                            | <b>No</b>   | <b>No</b>   | <b>No</b>        | <b>No</b>         | <b>No</b>       |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 1 occurs in 2010 and will allow one out of a maximum potential of three ships in berth to operate on shore power. Phase 1 assumes three ships in berth with one ship operating on shore power.

<sup>3</sup> Phase 2 occurs in 2017 and will allow two out of a maximum potential of three ships in berth to operate on shore power. Phase 2 assumes three ships in berth with two ships operating on shore power.

There are several assumptions incorporated into the above analysis of the proposed Project's operational emissions:

- It assumes that the three shore-power capable ships call at port as many times in future years as in 2008 (e.g., reductions due to reduced ship calls because of economic conditions are not included);
- It assumes that even two of these three ships never call on the same day (based on 2008 actual ship call data and projected 2009 and 2010 ship call information) so that additional Phase 2 reductions (beyond Phase 1) could occur if two of them called on the same day; and

- It assumes that only the three ships that are currently capable of using shore power will be able to use shore power (greater reductions would occur if additional ships that call can use shore power in the future).

The last assumption is particularly important because other cruise ships currently calling at the Port may be made capable of using shore power in the future. In addition, the three ships that are capable of shore power may call at port more frequently. Both of these are likely scenarios, and additional emissions reductions could be achieved. Details of all analyses are available in Appendix B.

A CO hotspot analysis was not conducted because the proposed Project will not generate any additional traffic during operation and therefore, such an analysis was not warranted. The proposed Project does not place sensitive receptors near CO “hotspots” or create CO “hotspots” near sensitive receptors.

The proposed Project results in a reduction of all of the criteria air pollutant emissions because MDO or other on-board fuels are not used while the ship is connected to shore power. Although a small increase in indirect criteria pollutant emissions at the electricity-generating facilities would occur, these would be very small (ENVIRON, 2004) and are incorporated into the operational emission calculations discussed above. This analysis is conservative as it assumes that only three ships will be capable of using shore power and that two of the three will never be berthed at the same time. If more ships become shore power-capable or the call schedule of the shore-power capable ships changes such that two are at berth at the same time in 2017 or later, the reduction of emissions below current levels will be even greater. In addition, shore power capable ships would not have to maneuver to a new or different terminal to use shore power but rather berth at the same terminal as they have in the past to utilize this infrastructure. Thus, there would be no environmental impacts caused by ships choosing to use other terminals because of the proposed Project. In conclusion, the proposed Project results in an overall reduction of operational emissions of all criteria pollutants as compared to the CEQA baseline and short-term emission increases due to construction activities that are less than the daily significance thresholds. Thus, the potential impact of the proposed Project’s criteria pollutant emissions is less than significant.

### ***Summary of Criteria Pollutant Health Impacts***

The primary health effects associated with exposure to typical combustion pollutants (i.e., NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>) are respiratory-related impacts, including decreased lung function, aggravation of chronic respiratory condition, and aggravation of heart disease conditions. There will be a minor increase in emissions during construction of the shore-power equipment, but the level of air emissions is well below applicable significance criteria and no significant adverse health impacts are expected. The proposed Project is expected to result in a net reduction in the operational emissions of these pollutants. As a result, the proposed Project is not expected to cause or contribute to an exceedance of any ambient air quality standards and instead is expected to contribute to an improvement in local air quality by decreasing cruise ship hotelling emissions. No significant adverse health impacts associated with operational emissions are expected. Therefore, the proposed project would not violate any air quality standard or contribute to an existing or projected air quality violation.

In addition, the proposed Project is consistent with applicable RAQS and applicable measures in the SIP, and is not expected to diminish an existing air quality rule or a future compliance requirement. Therefore, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

### **Cumulatively Considerable Impact of Criteria Pollutants**

Because the San Diego Air Basin is currently non-attainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> (Table III-1), related projects could exceed the applicable air quality standard or contribute to an existing or projected air quality exceedance. With regard to determining the significance of the contribution from the proposed Project, the SDAPCD recommends that any given project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as for project-specific impacts. This analysis assumes that individual projects that generate construction or operational emissions that exceed the SDAPCD's recommended thresholds for project-specific impacts would also cause or contribute to a cumulatively considerable increase in emissions for those pollutants for which the San Diego Air Basin is in non-attainment and therefore, would be considered to have significant adverse air quality impact.

The construction emissions associated with the proposed Project are less than the significance thresholds found in Table III-2 and hence are less than significant. As illustrated in Table III-4, the operational emissions associated with the proposed Project are less than the operational emissions in the baseline and thus are not greater than the recommended significance thresholds. Pursuant to the County of San Diego's Significance Guidelines (County of San Diego, 2007), the proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant.

### **Impacts to Sensitive Receptors**

The SDAPCD identifies the following as sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools (preschool-12<sup>th</sup> grade), playgrounds, child care centers, and athletic facilities (County of San Diego, 2007). Under the SDAPCD definition, the nearest sensitive receptors to the site are the residents of the Grande at Santa Fe condominium towers (1199 Pacific Highway) on the east side of Pacific Highway; in addition, there are pedestrians that use the promenade along the Embarcadero.

Hotelling ships and construction equipment using diesel fuels emit diesel particulate matter (DPM) and other TACs. Based on information from California's Office of Environmental Health Hazard Assessment (OEHHA) and CARB, DPM is the primary risk driver for these types of sources and San Diego County in general. Construction during the proposed Project generates various, but minimal, DPM and TACs over a relatively short duration time. Once construction is completed and ships begin to operate on shore power while at berth, there will be a reduction of DPM and other TACs compared to ships operating using on-board engines. If it is conservatively assumed that all PM<sub>10</sub> and PM<sub>2.5</sub> emissions in Tables III-3 and III-4 are DPM emissions, it can be seen that the proposed Project results in an overall net reduction of DPM emissions compared to the baseline; other combustion-related TAC emissions would also decrease compared to the baseline. Therefore, the proposed Project would result in a less than

significant adverse impact associated with exposure of sensitive receptors to substantial air toxic pollutant concentrations.

### **Odor Impacts**

SDAPCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section §41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. The area surrounding the site is currently developed for retail and commercial uses. The proposed Project replaces energy generated from on-board fuel combustion with energy generated by off-site electricity. During operation, there will be no adverse odor impacts from the use of shore power and a potential decrease in odors associated with on-board power generation. During construction, there may be a minimal, temporary increase in odor due to operation of the construction equipment. However, each activity lasts for 6 days or less, with total construction occurring over a 128-day span. Any potential increase in odors thus would be temporary and is not expected to have a significant adverse impact on the public. In addition, these activities would be subject to and comply with SDAPCD Rule 51. Therefore, the proposed Project would not create objectionable odors affecting a substantial number of people.

### **Impact on Existing Air Quality Rule or Future Compliance**

As discussed above, the proposed Project is designed to meet all criteria and toxic pollutant air quality rules. As such, it is not expected to diminish an existing air quality rule or future compliance requirement resulting in a significant increase in criteria or toxic air pollutants. In fact, the proposed Project will reduce emissions of criteria and toxic air pollutants and is consistent with the CARB's Shore Side Power Rule, the Port's CAP, and the Port's Green Port Policy. Therefore, the proposed Project would not diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutants.

## **3.2 Mitigation Measures**

With regard to air quality, no mitigation measures are required for the proposed Project because no significant impacts to air quality are expected. As noted above, the proposed Project itself will reduce existing air quality impacts by decreasing criteria and air toxic emissions that would occur in the absence of the proposed Project.

| IV. <b>BIOLOGICAL RESOURCES.</b> Would the project:  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|--|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption or other means?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident, migratory fish, or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## 4.1 Environmental Setting and Impacts

### Biological and Habitat Impacts

As described in Chapter 1, the proposed Project is located on a small section of the B Street and Broadway piers and along the adjacent North Harbor Drive. The Piers are fully developed pier structures which do not contain any biological resources and do not provide any habitat for sensitive or protected species. There are no significant areas of natural open space, federally protected wetlands or areas of significant biological resource value within the boundaries of the facility. Because all excavation and construction would occur within the existing confines of the Piers, no disturbance of, or substantial adverse effect on, wetlands would result from project implementation.

Current and future operations at the Port will comply with all local, regional, and state conservation plans. The proposed Project will not conflict with any local policies or ordinances protecting biological resources.

There are several sensitive wildlife species which have been identified in the general vicinity of the site. The U.S. Fish and Wildlife Service (USFWS) designated South San Diego Bay, which is south of the project site, as a Western Hemisphere Shorebird Reserve Site. The Sweetwater Marsh National Wildlife Refuge (SMNWR) is located approximately 5 miles southeast of the project site which provides sanctuary for various protected fauna and flora species. The sensitive species within the SMNWR include the Light-footed clapper rail (*Rallus longirostris levipes*), California least tern (*Sternula antillarum*), Westy snowy plover (*Charadrius alexandrius nivosus*), Coastal California gnatcatcher (*Polioptila californica californica*), and the California brown pelican (*Pelecanus occidentalis californicus*). There are no species designated by the California Department of Fish and Game (CDFG) or any riparian habitats or other sensitive natural communities identified by either the USFWS or CDFG at the Project site. There are no local, regional, or state habitat conservation plans which apply to the proposed Project site. Accordingly, no conflicts with local, regional, or state habitat conservation plans will occur.

The proposed Project consists primarily of on-site modifications, with some off-site land disturbance. Total excavation will be approximately 300 cubic yards on-site, with approximately 1,425 cubic yards excavated off-site along North Harbor Drive for cable laying. All disturbed land will be repaved or backfilled and restored to its original condition. Because all disturbed land will be restored to its original condition, construction and operation of the proposed Project is not expected to have a significant impact on biological resources or habitats in the surrounding area. No candidate, sensitive or special species, nor riparian habitat or other sensitive natural community will be adversely affected. Construction and operation of the proposed Project will not interfere substantially with the movement of any native resident, migratory fish, or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Construction activities will not occur in the water, so no marine habitats will be directly affected. However, construction will occur over the water to install the cables that will run the length of and in between the two piers. As a result, a permit from the Army Corps of Engineers is required and will be obtained by the Port District. In addition, mechanisms will be in place to catch any debris that results from construction activities over water.

## **4.2 Mitigation Measures**

No mitigation measures are required because no significant adverse impacts to biological resources are expected.

| V. <b>CULTURAL RESOURCES.</b> Would the project:   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---|------------------------------|-----------|
| a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?      | ☐                              | ☐   | ☐                            | ☑         |
| b) Cause a substantial adverse change in the significance of an archaeological resource, as defined in §15064.5? | ☐                              | ☐   | ☐                            | ☑         |
| c) Directly or indirectly destroy a unique paleontological resource, or site or unique geologic feature?         | ☐                              | ☐   | ☐                            | ☑         |
| d) Disturb any human remains, including those interred outside formal cemeteries?                                | ☐                              | ☐   | ☐                            | ☑         |

## 5.1 Environmental Setting and Impacts

### Historical, Archaeological and Paleontological Resources

B Street Pier and Broadway Pier were constructed approximately 100 years ago. B Street Pier is a hydraulic fill mole structure on filled tidelands with a bearing pile supported reinforced concrete dock and girder marginal wharf. Broadway Pier is entirely constructed with a bearing pile supported reinforced concrete deck and girder marginal wharf. The development of the piers eliminated any paleontological resources or unique geological features that may have existed on the site previously. The proposed Project will require demolition of pavement for the construction of equipment pads and excavation of soil for the installation of a utility box on B Street and SDG&E electrical cables. No existing structures or historical resources will be affected during construction or operation. No archaeological or paleontological resources have previously been identified at this site. As a result, construction of the proposed Project will have no impact on historic, archaeological or paleontological resources as defined in §15064.5. There will be no excavation occurring on Broadway Pier.

### Human Remains

There are no known human remains or burial sites on the project site. Accordingly, construction activities related to the proposed Project are not expected to cause or contribute to the disturbance of any human remains. In the unlikely event that human remains were encountered unexpectedly during ground disturbance associated with construction of the proposed Project, the Port District will implement the proper procedures for addressing the discovery of human remains recommended in §15064.5 (i.e. temporarily halting disturbance work in the expected vicinity of the remains, contacting the San Diego County medical examiner). Therefore, no human remains, including those interred outside of formal cemeteries, will be impacted as a result of the proposed Project.



## 5.2 Mitigation Measures

The proposed Project is expected to have no impacts on cultural resources and thus, no mitigation measures are required.

| VI. GEOLOGY AND SOILS. Would the project:   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault?                   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Strong seismic ground shaking?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Landslides?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit, or soil that is unstable or that would become unstable as a result of the project, and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## 6.1 Environmental Setting and Impacts

### Geological Impacts

The B Street and Broadway Piers are located in a seismically active region of southern California. San Diego is approximately 100 miles west of the San Andreas Fault and are close to several large active faults including Elsinore, San Jacinto, Coronado, San Diego, San Clemente, La Nación, Silver Strand, and Spanish Bight. The San Diego, Coronado, and Spanish Bight faults are in close proximity to the Piers. Construction and operation of the shore power equipment is not expected to result in substantial increased risk of loss, injury or death due to rupture of one of these earthquake faults.

As with all properties in the seismically active southern California region, the proposed Project area is susceptible to ground shaking, ground failure, and landslides produced by local faults during seismic events. The proposed Project involves the installation of shore power facilities to serve cruise ships that have been, and will continue to, berth at the B Street and Broadway piers and will not cause or contribute to an increase in the exposure of people or structures to adverse effects involving earthquakes or other potential seismic hazards. While it is likely that the proposed Project area will experience seismic events by future earthquakes produced in southern California, construction occurring at the site as part of the proposed Project will be conducted in accordance with all applicable requirements for seismic safety in the Uniform Building Code (UBC); thus, the increased risks to employees and nearby residents and workers due to the proposed Project are minimal in the case of a seismic event. Overall, impacts due to on-site rupture of a known earthquake fault, risks from seismic ground shaking, ground failure including potential liquefaction impacts, and landslides impacts would be less than significant.

### Soil Erosion and Unstable Soils

The existing Project site, which will be affected by the proposed Project, is located on a paved surface approximately 3,600 square feet in area. As discussed in Chapter 1, this represents a subsection of the B Street and Broadway piers. The construction required to complete the proposed project will involve excavation of approximately 300 cubic yards on-site. The disturbed land will be replaced with new pavement or concrete slabs supporting installed equipment such as the transformers, as applicable. The excavated soil will either be used on-site in the mole section of the B Street Pier (i.e. hydraulic fill mole structure) or disposed of off-site. If it disposed of off-site, the excavated volume will only require one truck and will be disposed of in an appropriate manner.

An additional 1,425 cubic yards of soil will be excavated for the digging of electrical cable trenches in order to install SDG&E cables in buried trenches. However, the soil will be replaced after the cables have been laid, with the land restored to its condition previous to excavation.

The proposed Project is not located on expansive soil as defined by the UBC. In addition, the amount of soil disturbed during construction is expected to be minimal. The B Street Pier mole area consists of fill material considered to be potentially liquefiable during a strong seismic event. The design of the foundations for the proposed Project includes a large concrete mat to avoid effects of liquefaction in the mole. All construction will be in accordance with the UBC for seismically active areas.

Because the proposed Project involves minimal disturbance, with repaving and restoration of any disturbed land, no significant impacts on topography and soils, and hence, soil erosion, are expected. Because the proposed Project is not located on expansive or unstable soils, no significant impacts related to disturbance of these soils are expected.

### **Septic Systems**

The proposed Project is located in a developed area of the Port, which is served by an existing wastewater collection, conveyance and treatment system operated by the City of San Diego. Even though the piers and underlying soils are capable of adequately supporting the use of any required septic tank or alternative waste water disposal system, no septic tanks or alternative disposal systems are necessary, nor are they proposed. If required, portable toilets owned, operated, and serviced by a licensed sanitary vendor will be used to accommodate workers involved in construction operations. Therefore, no significant impacts on soils from alternative wastewater disposal systems are expected.

### **6.2 Mitigation Measures**

The proposed Project is not expected to have a potential significant adverse impact on geology or soils in the project area. Accordingly, no mitigation measures are required for the construction or operation of the proposed Project.

| VII. GLOBAL CLIMATE CHANGE.  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                |
|--|--------------------------------|---|-------------------------------------|--------------------------|
| Would the project:   |                                |   |                                     |                          |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?                       | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in increased exposure to one or more of the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006. | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## 7.1 Environmental Setting and Impacts

No provision of CEQA or the CEQA Guidelines presently requires a lead agency to perform environmental review of a project's greenhouse (GHG) emissions. The above checklist items a) and b) are from the draft amendments to Appendix G of the CEQA Guidelines proposed by the Governor's Office of Planning and Research (OPR) pursuant to SB 97, which directed OPR to develop amendments to the CEQA Guidelines addressing the effects and mitigation of GHG emissions (CEQA Guidelines § 21083.05). Although OPR released its proposed amendments to the CEQA Guidelines on April 13, 2009, the new and amended CEQA Guidelines have not yet been finalized or adopted and will not go into effect until January 1, 2010. CEQA does not require a lead agency to consider proposed or draft regulations when evaluating a project [*Chaparral Greens v. City of Chula Vista* (1996) 50 Cal. App. 4th 1134, 1145] and expressly prohibits its provisions from being interpreted in a manner which imposes procedural or substantive requirements beyond those explicitly stated in CEQA or the CEQA Guidelines (CEQA Guidelines § 21083.1).

At the present time, no other federal, state, or local law or regulation requires a lead agency to perform environmental review of a project's GHG emissions. The California's Global Warming Solutions Act of 2006 (AB32), the primary legislative enactment which addresses GHG emissions, neither mentions CEQA nor requires a local agency to conduct environmental review of GHG emissions. Instead, it charges CARB with the responsibility for regulating GHG emissions and requires CARB to adopt GHG emission limits and reduction measures on or before January 1, 2011 (Health and Safety Code §§ 38510, 38562).

In addition, no reported appellate judicial decision requires a lead agency to perform environmental review of a project's GHG emissions. The majority of trial court decisions which have considered the issue have ruled that CEQA does not require a lead agency to analyze the

potential impacts of a project's GHG emissions. See, e.g.: *Unite-Here Local 30 v. San Diego Unified Port District*, San Diego County Superior Court No. 37-2008-00077646-CU-MC-CTL [addendum to master EIR found adequate because evidence of the effect of GHG emissions on global climate change does not constitute new information requiring additional environmental review, there is no legislative or judicial requirement for CEQA review of GHG emissions, and project design incorporated features to reduce GHG emissions]; *American Canyon Community United for Responsible Growth v. City of American Canyon*, Napa County Superior Court No. 26-27462 [addendum found adequate because AB32 does not constitute a new information requiring further environmental review]; *National Resources Defense Council v. Reclamation Board*, Sacramento County Superior Court No. 06 CS 01228 [addendum found adequate because climate change information does not constitute a new information requiring further environmental review]; *Highland Springs Conference and Training Center v. City of Banning*, Riverside County Superior Court No. RIC 460950 [EIR found adequate because no law required city to consider global warming at the time it approved the project]; *Westfield, LLC v. City of Arcadia*, Los Angeles County Superior Court No. BS 108923 [EIR not required to analyze GHG emissions because S.B.97 does not require it, there is no accepted methodology for doing so, and no single project can have a significant climate change impact]; *Center for Biological Diversity v. City of Perris*, Riverside County Superior Court No. RIC 477632 [EIR not required to analyze GHG emissions because there is no established standard for doing so].

Despite the absence of any legislative or judicial mandate, the Port District recognizes the existence of widespread concern regarding the effects of GHG emissions on global climate change and has undertaken a proactive approach with respect to GHG emissions which is evidenced, in part, by the proposed Project itself. Therefore, in the interest of promoting public disclosure and informed decision-making, the Port District provides the following examination of the potential impacts of the proposed Project's GHG emissions on the environment. In addition, the Port District has also analyzed the impacts of item c) in the above checklist.

### **GHG Emissions and Applicable Regulations**

Global climate change refers to changes in average climatic conditions on earth as a whole, including temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. The six GHGs included in AB32's definition of "greenhouse gases" and identified by the Kyoto Protocol in order of abundance in the atmosphere, are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF<sub>6</sub>). GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave energy both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation that is absorbed in the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, rise of sea levels, more extreme heat days per year, and more drought years.

Events and activities, such as the industrial revolution and natural emissions, have contributed to the increase in atmospheric levels of GHGs. As reported by the CEC, California contributes 1.4 percent of the global and 6.2 percent of the national manmade GHG emissions (CEC,

2004). Approximately 80 percent of manmade GHGs in California are from fossil fuel combustion and over 70 percent of GHG emissions are composed of CO<sub>2</sub> emissions (CARB, 2007a).

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state.

- In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, which requires the development and adoption of regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State.
- In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions reduction targets for the state, as well as a process to ensure that the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California State Environmental Protection Agency (CalEPA), was formed. The CAT published its first report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the executive order.
- In September 2006, Governor Schwarzenegger signed California’s Global Warming Solutions Act of 2006 (AB32). AB32 requires CARB to establish a statewide GHG emissions cap for 2020; adopt mandatory reporting rules and an emission reduction plan for significant sources of GHG emissions; and adopt regulations to achieve the maximum technologically feasible and cost effective reductions of GHGs.
- SB1368, a companion bill to AB32, requires the California Public Utilities Commission (CPUC) and the CEC to establish GHG emission performance standards for the generation of electricity, whether generated inside the State or generated outside and then imported into California. SB1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO<sub>2</sub> per megawatt-hour (MW-hr).
- California Senate Bill 97 (SB97), passed in August 2007, is designed to work in conjunction with CEQA and AB32. SB97 requires the California Office of Planning and Research (OPR) to prepare and develop CEQA Guidelines for the mitigation of GHG emissions or the effects thereof, including, but not limited to, effects associated with transportation and energy consumption. The proposed new and amended CEQA Guidelines must be transmitted to the California Resources Agency by July 1, 2009 to be certified and adopted by January 1, 2010.

According to the GHG inventory for California (CARB, 2007a), the total statewide manmade (or industrial) net GHG emissions in 2004 were approximately 480 million metric tons per year of

CO<sub>2</sub>eq emissions. Global emissions of GHGs in 1990 were estimated by the Intergovernmental Panel on Climate Change (IPCC) to be 32,100 million metric tons of CO<sub>2</sub>eq emissions.

### ***GHG Analysis and Conclusion***

The analysis of GHGs is far different from the analysis of criteria pollutants for the following reasons. For criteria pollutants, many of the significance thresholds are based on daily emissions because the attainment or non-attainment status is based on daily exceedances of applicable ambient air quality standards based on the relatively short-term exposure effects on human health (e.g., one-hour, eight-hour, and 24-hour). In contrast, the half-life of CO<sub>2</sub> is approximately 100 years, resulting in longer-term effects of GHGs and thus, affect global climate over a relatively long time frame.

In its *CEQA & Climate Change* document (January 2008), the California Air Pollution Control Officers Association (CAPCOA) identified several different options for determining the significance of GHG emissions. The CAPCOA document indicates that establishing quantitative thresholds is a balance between setting the level low enough to capture a substantial portion of future residential and non-residential development, while at the same time setting a threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions. For example, CAPCOA identifies one potential significance threshold as 10,000 metric tons CO<sub>2</sub> equivalents (CO<sub>2</sub>eq) per year, which was considered by the Market Advisory Committee for inclusion in a Greenhouse Gas Cap and Trade System in California. Another potential threshold identified by CAPCOA is 25,000 metric tons CO<sub>2</sub>eq per year, which is CARB's mandatory reporting threshold under AB 32. On September 22, 2009, the US EPA also finalized the GHG reporting rule which requires reporting by direct emitters of GHG who exceed a 25,000 metric tons CO<sub>2</sub>eq per year threshold. In addition, another potential threshold is to quantify the percentage of the total statewide inventory of GHG emissions represented by emissions from a single project. If emissions are a relatively small percentage of the total inventory, it is probable that the project will have little or no effect on global climate change.

CARB released a preliminary draft staff proposal "Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act" on October 24, 2008 (CARB, 2008). Under this draft staff proposal, a non-transportation-related industrial project would be determined to have a less than significant impact if incremental GHG emissions after mitigation are less than 7,000 metric tons CO<sub>2</sub>eq/yr. Currently, this draft proposal is in a public review comment period; the last workshop was conducted on December 9, 2008. Numerical significance thresholds have not been proposed for any other type of project (e.g., commercial, residential, transportation, etc.).

In the absence of any legislative or judicial mandate for the review of GHG emissions and in anticipation of upcoming changes to the CEQA Guidelines and the establishment of CARB thresholds, the Port District has not yet formally adopted a numerical threshold for determining the significance of GHG emissions. Instead, it is the Port District's practice to quantify, where feasible, a proposed project's potential GHG emissions and to identify design features or other measures which can be incorporated into the project to reduce GHG emissions in a manner consistent with the goals and objectives of AB32.

The proposed Project has been evaluated for all direct (i.e., combustion emissions) and indirect (i.e., electricity usage) emissions of GHGs, specifically CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Shore power reduces combustion emissions by replacing on-board engine use with electricity use. As a result, the proposed Project is expected to result in minimal amounts of combustion GHG emissions (emissions during the connection and disconnection process) and indirect GHG emissions from electricity production when the ship is hotelling at berth and to result in fewer overall GHG emissions than those from the existing hotelling practice.

As can be seen in Table VII-1, total GHG emissions from operation and construction of the proposed Project are expected to be less than the baseline emissions. Operations from the proposed Project is expected to result in 1,824 metric tons CO<sub>2</sub>eq/yr compared to baseline emissions of 3,197 metric tons CO<sub>2</sub>eq/yr, a decrease of approximately 1,374 metric tons CO<sub>2</sub>eq/yr after Phase 1. Full implementation of the proposed Project (Phase 2) is expected to result in at least the same decrease of 1,374 metric tons CO<sub>2</sub>eq/year (see Table VII-1) and a greater decrease if shore-power capable ships happen to be at berth on the same day. In addition, if more ships become shore-power capable, there would be greater reductions from existing conditions. Details of all analyses are available in Appendix B.

Short term GHG emissions generated during construction are expected to total 1,953 metric tons over 128 days. Based on the SCAQMD interim guidance document and related discussions in the SCAQMD CEQA GHG Working Group, the current practice is to average the short-term construction emissions over the project life (generally 30 years) to determine the average annual GHG emissions from construction (i.e., 1,953 metric tons averaged over 30 years is 65 metric tons per year). The total project GHG emissions (operation and 30-year average construction) are 1,889 metric tons CO<sub>2</sub>eq/year, a reduction of 1,309 metric tons CO<sub>2</sub>eq/year as compared to the baseline. The proposed Project is expected to result in a decrease in emissions, which is well below potential numerical thresholds discussed above. In addition, the proposed Project would not conflict with or obstruct implementation of the California Global Warming Solutions Act or its governing regulations. Indeed, the proposed Project will promote implementation of the goals and objectives of AB 32 because shore power is listed as a CARB AB 32 early action item as well as achieving earlier benefits than the proposed implementation date of 2014. In addition, the proposed Project will comply with the Green Port Policy. Based on the above information, the potential impacts of the proposed Project's GHG emissions are expected to be less than significant. (Cumulative impacts are addressed in Section 17.)



**Table VII-1 GHG Emissions Summary Table**

| Emissions  | CO <sub>2</sub> eq Emissions (tons/yr) |           |               |
|--|--|-----------|---------------|
|  | Construction<br>(Ave. over 30-years)   | Operation | Total Project |
| Baseline <sup>1</sup>                              | 0                                      | 3,197     | 3,197         |
| Full Project - Phase 2 <sup>2</sup>                | 65                                     | 1,824     | 1,889         |
| <i>Incremental difference (Phase 2 - Baseline)</i> | 65                                     | -1374     | -1,309        |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 2 will occur in 2017 and will allow 2 out of a maximum potential of 3 ships in berth simultaneously to operate on shore power. Since the ships are not at berth at the same time on a single day in 2008 (and are not projected to be in 2009 or 2010), the analysis assumes only one ship uses shore power on any given day. Phase 2 emissions would be smaller (and Project reductions greater) if two ships capable of using shore power called on the same day(s).

### Effects of Potential Sea Level Changes

In AB 32, the Legislature found that global climate change may have a number of adverse effects on the environment in California, including causing or contributing to rising sea levels. The IPCC stated that rising sea levels are consistent with the observed warming of the atmosphere (IPCC, 2007). According to the California Climate Change Center's White Paper entitled Projected Future Sea Level (March 2006), a historical rate of sea level rise approaching 0.08 inches per year was recorded for California tide gages, similar to the rate estimated for global mean sea level. The Center's White Paper concluded that ". . . sea level rise was likely to exceed that which has been observed during the last 100 years or so at tide gages along the California coast, so that historical coastal structure design criteria would more often be exceeded, the duration of events would increase, and these events would become increasingly frequent as sea level rise continues."

Since that white paper, numerous reports have been published with regards to projected sea level rise in San Diego Bay. The San Diego Foundation Focus 2050 report, prepared by the San Diego Foundation in collaboration with Scripps Institute of Oceanography in 2008, provides a summary of the research models and conclusions for sea level rise.<sup>4</sup> The mean sea level rise for the year 2050 reported in the Focus 2050 report is between 12 and 18 inches by 2050. For the purposes of this analysis, a selected value of 16 inches above sea level rise by 2050 is used. The value of 16 inches exceeds the midpoint of the range identified in the 2050 Focus report.

The highest high tide recorded was 7.79 feet above Mean Lower Low Water (MLLW). Assuming a potential storm surge of 1.00 foot and a potential sea level rise of 16 inches, the maximum water line is estimated to be 10.12 feet above MLLW. The elevation of the B Street Pier is approximately 10.99 feet above MLLW. Given the sea level rise assumptions for the area in the vicinity of the project site, the proposed Project is not expected to result in a substantial increased exposure of people or property to adverse impacts of potential future mean sea level

<sup>4</sup> Available at: <http://www.sdfoundation.org/news/pdf/Focus2050glossySDF-ClimateReport.pdf>

rise. Accordingly, the potential impacts from this adverse effect of global climate change would be less than significant.

## **7.2 Mitigation Measures**

The GHG emissions of the proposed Project are expected to have a less than significant adverse impact on the environment. Accordingly, no mitigation measures are required. As noted above, the proposed Project is expected to have a beneficial impact on the environment because it will reduce GHG emissions by enabling cruise ships that berth at the B Street and Broadway piers to use shore power rather than on-board engines to meet their electrical needs.

| VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|--|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transportation, use or disposal of hazardous materials?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or the environment?                        | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Be located within the vicinity of a private airstrip, or result in a safety hazard for people residing or working in the project area?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?             | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| i) Significantly increased fire hazard in areas with flammable materials?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

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## **8.1 Environmental Setting and Impacts**

### **Transportation, Use, and Disposal of Hazardous Materials and Risk of Upset**

The proposed Project includes installation of shore power electrical equipment, automation and operational software infrastructure, concrete mounting pads, fencing, and other ancillary improvements. The risk of an explosion, fire, or other hazards is low because this equipment has been or will be designed and manufactured for this specific application. Polychlorinated biphenyls (PCBs) will be used in the transformers that will be installed as part of the proposed Project. However, the additional use will be minimal and the transformers will be contained within secondary spill contaminant areas (6-inch curb spill containment basin). No significant impact associated with PCBs is expected. No additional hazardous materials will be transported, used or stored on-site during typical operations of the proposed Project.

The construction equipment used by contractors will utilize a variety of typical hazardous materials including lube oils, gasoline and/or diesel fuels, sealants, welding gases, and paints. The temporary use of these materials during construction activities will be subject to all federal, state, and local laws. Other than the temporary use of these materials during construction activities, no new hazardous materials are expected to be introduced to the project site. Thus, the proposed Project is not expected to result in any new risk of upset involving hazardous materials or the accidental release of hazardous materials into the environment.

The Port implements best management practices, such as straw swales and perimeter practices (e.g., filter inserts) to prevent pollutants from entering storm water discharge. In addition, the Port currently operates in compliance with regulations for the transportation, use, and disposal of hazardous materials. Construction and operation of the proposed Project would not result in a substantial increase in runoff volumes or velocities, and the design capacity of the existing storm water conveyance system would not be exceeded. Overall, the project would have a less than significant impact on the public and environment due to hazardous materials.

### **Potential Hazards Near School**

No existing or proposed schools are located within one-quarter mile of the project location. Any potential impacts related to hazards associated with the proposed Project are expected to remain within the Port's facility, so no significant adverse impacts to a school within one quarter mile are expected.

### **Hazardous Materials Sites**

The proposed Project site is not included on a list of hazardous sites (Government Code §65962.5). As a result, no significant adverse impact is expected to the public or the environment.

### **Potential Hazards to Airports or People Living or Working in the Project Area**

The proposed Project is located less than two miles from San Diego International Airport (SDIA). An airport land use compatibility plan (ALUCP) was developed jointly by an advisory committee to SDIA, the Port District, and the City of San Diego (San Diego ALUC, 2004). The

proposed Project is consistent with the current operations at the Port and the ALUCP, and no safety hazards are expected from the proposed Project on any airports in the region. Because no safety hazards are expected, there is no additional risk to people residing or working in the project area, SDIA or other private airstrips.

### **Potential Impacts on Emergency Response or Evacuation Plan**

The proposed Project is subject to the Harbor Safety Plan as is required by the California Oil Spill Prevention and Response Act of 1990. This plan is intended to enhance vessel safety, to prevent pollution, and to protect the resources in the area. The Port also has an emergency preparedness plan related to on-site operations which it will follow in the event of an emergency.

Emergency vehicles have access to the proposed Project, thereby providing adequate emergency access. The proposed Project is not expected to interfere with any adopted emergency response plan or emergency evacuation plan, and the proposed Project will have no impact on these emergency services.

### **Potential Fire Hazards**

No substantial or native vegetation exists within the area of the proposed Project. The proposed Project will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees. In addition, no additional flammable materials will be added to the site for the operation of the proposed Project. Therefore, no significant increase in fire hazards is expected to be associated with the proposed Project.

## **8.2 Mitigation Measures**

The proposed Project is not expected to have a significant impact with respect to hazardous material. Accordingly, no mitigation is required.

| IX. <b>HYDROLOGY AND WATER QUALITY.</b> Would the project:   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|--|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area any structures which would impede or redirect flood flows?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

| IX. HYDROLOGY AND WATER QUALITY. Would the project:    | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|--|--------------------------------|---|------------------------------|-------------------------------------|
| dam?   |                                |   |                              |                                     |
| j) Result in inundation by seiche, tsunami or mudflow? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## 9.1 Environmental Setting and Impacts

### Water Quality and Wastewater

The project site is located on the San Diego Bay. The project site and surrounding land area are relatively flat. The project site is required to utilize storm water pollution control measures under the National Pollutant Discharge Elimination System (NPDES) Permit, Order No. 2001-01, and NPDES No. CA0108758 which were issued to the Port. The project site implements best management practices to prevent pollutants from entering storm water discharge. Runoff from the project site flows into the existing storm drain conveyance system or sheet flows directly into the Bay. Curb inlet filters are located in both the main parking area and bus parking area on the pier; runoff from these areas is filtered through a basket before entering the Bay. Runoff from the remainder of the site is not treated and flows directly into the Bay. In addition, perimeter BMPs with filter inserts are located around the fence, and the Port adheres to a Stormwater Pollution Prevention Plan (SWPPP) per the municipal permit. A project specific Urban Stormwater Mitigation Plan (USMP) will be developed to identify additional post-construction BMPs. Continued compliance with the applicable federal, state, and local laws and regulations, as well as applicable permit provisions, are expected to ensure that no significant impacts related to potential discharge into surface water or changes in water quality occur as a result of the proposed Project. The proposed Project is not expected to significantly impact the capacity of the existing storm water drainage system.

The proposed Project is not expected to increase the amount of water used on site compared to the current usage. As a result, the proposed Project is not expected to deplete groundwater supplies.

The proposed Project will require excavation of existing pavement for the construction of equipment pads and of land to install cables in buried conduits. After excavation, the disturbed land will be returned to its original state prior to the proposed Project (i.e., repavement or backfilling and restoration). No additional runoff is expected under the proposed Project, nor are drainage patterns expected to change. There are neither streams nor rivers in the vicinity surrounding the site and, therefore, the proposed Project is not expected to alter existing drainage patterns or alter the existing course of a stream or river. Because all land will be restored to its original state, no significant impact on erosion is expected due to the proposed Project. Also, as discussed above per the municipal permit, the Port District will adhere to SWPPP (e.g., straw swales) during construction.

The deposition of certain chemicals by cars and construction vehicles in the parking areas and internal roadway surfaces could have the potential to contribute metals, oil and grease, solvents, phosphates, hydrocarbons, and suspended solids to the storm drain system. No additional significant impacts to water quality would arise from operation of the proposed Project because it does not increase the number of cars, parking areas, or internal roadway surfaces. During construction of the proposed Project, approximately 20 workers per phase will be required. This small number of additional workers or the associated construction equipment will not significantly increase the amount of chemical deposition. Compliance with existing regulations would reduce the potential for water quality impacts to a less than significant level. In addition, the Port District will obtain and comply with an Army Corp permit for work over water which will require measures to be taken to collect and prevent debris from entering the Bay (such as the use of netting). Therefore, any drainage, runoff, or water quality impacts would be less than significant. The impact on water quality and wastewater is expected to be less than significant.

### **Flood Zone**

The project site is located adjacent to the San Diego Bay, which is classified as a 100-year flood region. The proposed Project site, however, is outside of the 500-year flood plain. There will be no houses or structures placed within a 100-year flood region as a result of the proposed Project. Because they are being built on the present B Street Pier, the new structures will not impede or redirect flood flows, and the proposed Project will have no impact on flood flows in the 100-year flood region. As a result, the proposed Project is not expected to significantly increase the risk of loss, injury, or death involving flooding, as well as flooding due to the failure of a levee or dam.

The shelter offered by nearby Coronado Island and Silver Strand results in a low risk of inundation by tsunamis. No risks of seiche or mudflows are associated with this location. The proposed Project will not increase the risk of inundation by seiche, tsunami, or mudflow.

### **9.2 Mitigation Measures**

No significant adverse impacts to water quality and supply are expected as a result of the activities associated with the proposed project. Therefore, no mitigation measures are required.



| X. | <b>LAND USE AND PLANNING.</b>  | <b>Potentially Significant Impact</b> | <b>Less Than Significant with Mitigation Incorporation</b> | <b>Less Than Significant Impact</b> | <b>No Impact</b>                    |
|----|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
|    | Would the project:   |                                       |  |                                     |                                     |
| a) | Physically divide an established community?  | <input type="checkbox"/>              | <input type="checkbox"/>                                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) | Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/>              | <input type="checkbox"/>                                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) | Conflict with any applicable habitat conservation or natural community conservation plan?  | <input type="checkbox"/>              | <input type="checkbox"/>                                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## 10.1 Environmental Setting and Impacts

### Established Community and Land Use

The proposed Project does not involve a change in the existing land or water use of the project site. The primary modifications at the site will occur entirely within the Port's property boundaries. No established community will be physically divided as a result of the construction or operations of the proposed Project. Accordingly, the proposed Project will have no impact on established communities or existing land and water use of the project site.

### Conflict with Applicable Plans

The proposed Project is consistent with the PMP, specifically with Goals VIII, X, and XI. In addition, it is consistent with the Port's Green Port Policy. The project site is not subject to any applicable habitat conservation plan. Accordingly, the proposed Project will not conflict with any applicable land use plan or policy or with any applicable habitat conservation or natural community conservation plan.

## 10.2 Mitigation Measures

No significant adverse impacts to land or water use are expected to occur as a result of construction or operation of the proposed Project. Therefore, no mitigation is necessary or proposed.

| XI. | MINERAL RESOURCES. Would the project:  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|-----|--|--------------------------------|---|------------------------------|-------------------------------------|
| a)  | Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b)  | Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## 11.1 Environmental Setting and Impacts

### Mineral Resources

According to the State of California Department of Conservation, Division of Mines and Geology/U.S. Geological Survey (2000), construction sand and gravel deposits are located in the general vicinity of the Project. The Project area is not identified as a mineral resource recovery site on any land use plan. The proposed Project is located on the piers, and no minerals are known to exist within the site. In addition, the proposed Project does not involve the extraction, or subsequent loss, of any known mineral resource. As a result, the proposed Project will not have any impact on mineral resources.

### 11.2 Mitigation Measures

No impact to mineral resources is expected to occur as a result of construction or operation of the proposed Project. Accordingly, no mitigation is required.

| XII. | NOISE. Would the project result in:   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|------|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| a)   | Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?  | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                 | <input type="checkbox"/>            | <input type="checkbox"/>            |
| b)   | Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c)   | A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?   | <input type="checkbox"/>       | <input checked="" type="checkbox"/>                 | <input type="checkbox"/>            | <input type="checkbox"/>            |
| d)   | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e)   | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f)   | For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## 12.1 Environmental Setting and Impacts

### Background

Noise is defined as unwanted or objectionable sound. The most common method of describing noise involves measuring the pressure level or energy content of a given sound in decibels (dB). The minimum change in sound level that the human ear can detect outside of a laboratory setting is approximately 3 dB. A change in sound level of 10 dB is usually perceived by the average person as a doubling (or halving) of the loudness of the sound. Sound levels expressed in decibels are often further quantified using "A weighting," which reflects the decreased sensitivity of human hearing at low frequencies and at extremely high frequencies relative to the mid-range frequencies. Sound levels using this scale are usually labeled "dBA," and this is the most frequently used weighting applied in describing community noise levels.

The noise descriptor used as the basis of the City of San Diego noise limits and guidelines discussed in this noise section is the equivalent sound level or Leq. The Leq is a noise metric

representing the level of a constant sound that contains the same sound energy as the actual fluctuating sound over the same time period. As such, the Leq can be considered an energy-average sound level. The Leq noise metric can be applied to any time interval, and is typically considered for 1-hour or 24-hour periods.

Because community receptors are more sensitive to unwanted noise intrusion during evening and night hours, state law requires that, for planning purposes, a noise metric called the community noise equivalent level (CNEL) be used. A CNEL is a 24-hour Leq that includes the addition of 5 dBA to sound levels from 7 p.m. to 10 p.m. and the addition of 10 dBA to night levels from 10 p.m. to 7 a.m.

The proposed Project area is located on Port property near the City of San Diego, and there are potential noise sensitive receptors in the City as well as in the Port District. Also, because the Port District does not have its own specifically adopted noise/land use standards, it uses the City of San Diego noise regulations and guidelines for its projects in or near the City boundaries.

The City of San Diego noise limits are codified in Chapter 5, Article 9.5, Divisions 1 through 8 of the Municipal Code (Noise Abatement and Control Ordinance). Table XII-1 depicts the City of San Diego noise limits for various land use types. The noise limits apply at the property boundary where the noise is produced. If the zoning of the source and receiving properties differs, the applicable noise limit is the arithmetic average of the noise limits of the two applicable land use categories. In addition, the noise limits for public utility distribution or transmission facilities apply at or beyond six feet from the boundary of the easement upon which the equipment is located.

**Table XII-1 City of San Diego Noise Limits**

| Land Use  | Time of Day       | One-Hour Average Sound Level (Leq, dBA) |
|---|-------------------|---|
| 1. Single Family Residential                                    | 7 a.m. to 7 p.m.  | 50                                      |
|   | 7 p.m. to 10 p.m. | 45                                      |
|   | 10 p.m. to 7 a.m. | 40                                      |
| 2. Multi-Family Residential (Up to a maximum density of 1/2000) | 7 a.m. to 7 p.m.  | 55                                      |
|   | 7 p.m. to 10 p.m. | 50                                      |
|   | 10 p.m. to 7 a.m. | 45                                      |
| 3. All other Residential  | 7 a.m. to 7 p.m.  | 60                                      |
|   | 7 p.m. to 10 p.m. | 55                                      |
|   | 10 p.m. to 7 a.m. | 50                                      |
| 4. Commercial   | 7 a.m. to 7 p.m.  | 65                                      |
|   | 7 p.m. to 10 p.m. | 60                                      |
|   | 10 p.m. to 7 a.m. | 60                                      |
| 5. Industrial or Agricultural                                   | Any time          | 75                                      |

Source: SMC 59.5.0401

Ambient (outdoor) and indoor noise levels are also typically regulated by noise compatibility guidelines set forth in local government General Plans and ordinances. In addition to the noise limits identified in the City of San Diego noise ordinance, the Noise Element of the City of San Diego General Plan identifies various land use categories and the average CNELs considered

compatible for various uses. Table XII-2 depicts the land use-noise compatibility matrix of the City of San Diego General Plan (City of San Diego, 2008).

**Table XII-2 Land Use Noise Compatibility Guidelines<sup>1</sup>**

| Land Use Category  |                          | Exterior Noise Exposure (dBA CNEL) |  |    |    |
|--|--------------------------|------------------------------------|--|----|----|
|  |                          | 60                                 | 65   | 70 | 75 |
| <b>Open Space and Parks and Recreation</b>   |                          |                                    |  |    |    |
| Community & Neighborhood Parks, Passive Recreation   |                          |                                    |  |    |    |
| Regional Parks, Golf Courses, Athletic Fields, Water Recreational Facilities, Horse Stables, Park Maintenance Facilities   |                          |                                    |  |    |    |
| <b>Residential</b>   |                          |                                    |  |    |    |
| Single Units, Mobile Homes, Senior Housing   |                          | 45                                 |  |    |    |
| Multiple Units, Mixed-Use Commercial/Residential, Live Work, Group Living Accommodations   |                          | 45                                 | 45   |    |    |
| <b>Institutional</b>   |                          |                                    |  |    |    |
| Hospitals, Nursing Facilities, Intermediate Care Facilities, K-12 Educational Facilities, Libraries, Museums, Places of Worship, Child Care Facilities   |                          | 45                                 |  |    |    |
| Vocational or Professional Educational Facilities, Higher Education Institutional Facilities   |                          | 45                                 | 45   |    |    |
| Cemeteries   |                          |                                    |  |    |    |
| <b>Sales, Commercial Services, Offices</b>   |                          |                                    |  |    |    |
| Building Supplies/Equipment; Food, Beverages, & Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Wearing Apparel & Accessories; Building Services; Business Support; Eating & Drinking; Financial Institutions; Assembly & Entertainment; Radio & Television Studios; Golf Course Support; Business & Professional; Government; Medical, Dental, & Health Practitioner; Regional & Corporate Headquarters; |                          |                                    | 50   | 50 |    |
| Visitor Accommodations   |                          | 45                                 | 45   | 45 |    |
| <b>Vehicle and Equipment Sales and Services, Wholesale, Distribution, Storage Use, Industrial</b>  |                          |                                    |  |    |    |
| Commercial or Personal Vehicle Repair & Maintenance; Commercial or Personal Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking; Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution; Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries                                  |                          |                                    |  |    |    |
| Research & Development   |                          |                                    |  | 50 |    |
| <b>Agricultural</b>  |                          |                                    |  |    |    |
| Crop Raising & Farming; Aquaculture; Dairies; Horticulture Nurseries & Greenhouses; Animal Raising; Maintain & Keeping; Commercial Stables   |                          |                                    |  |    |    |
|  | Compatible               | Indoor Uses                        | Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.                     |    |    |
|  |                          | Outdoor Uses                       | Activities associated with the land use may be carried out.  |    |    |
|  | Conditionally Compatible | Indoor Uses                        | Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas. |    |    |
|  |                          | Outdoor Uses                       | Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable.    |    |    |
|  | Incompatible             | Indoor Uses                        | New construction should not be undertaken.   |    |    |
|  |                          | Outdoor Uses                       | Severe noise interference makes outdoor activities unacceptable.   |    |    |

<sup>1</sup> City of San Diego (2008).

Another set of applicable guidelines are the City of San Diego CEQA Significance Determination Thresholds established in January 2007. These thresholds suggest that significant noise impacts may occur if a project causes any of the conditions listed below. The applicability of these thresholds to the proposed project is also considered in this list.

1. Creates a significant increase in the existing ambient traffic noise levels. *Because the proposed Project would not increase traffic volumes or resulting traffic noise levels, no impact would be expected due to an increase in traffic noise.*
2. Exposes people to noise levels which exceed the noise limits outlined in the City's adopted noise ordinance (shown in Table XII-1) or are considered incompatible for the applicable land use (shown in Table XII-2). *The proposed Project would introduce equipment that could expose people to additional noise. Therefore, these potential impacts need to be considered.*
3. Exposes people to current or future transportation noise levels which exceed standards established in the Traffic Noise Significance Thresholds outlined in the CEQA Significance Determination Thresholds document. *Because the proposed Project would not result in the introduction of new people/sensitive uses to the project area, no impact would be expected due to the introduction of people to high levels of transportation noise.*
4. Results in land uses which are not compatible with aircraft noise levels as defined by an adopted airport Comprehensive Land Use Plan (CLUP). *Because the proposed Project would not result in the introduction of new land uses with the potential to be affected by airport-related noise, no impact would be expected.*

As indicated above, the only potential for significant noise impacts would be due to the proposed Project resulting in the exposure of people to noise levels either exceeding the applicable noise limits or considered incompatible for the specific land use category. Therefore, the potential for this type of impact is considered further below.

### **Noise and Groundborne Vibration Levels – Operation**

The project site is located at the northern end of the San Diego Bay. The only components of the Project that generate substantial noise levels during operation are the transformers to be located on B Street Pier. The B Street Pier is west of North Harbor Drive in between West Ash Street and Broadway Street. The pier is approximately 1,200 feet west of the end of West B Street. The project site is approximately one mile west of I-5. To the north and east is downtown San Diego, and to the south and west is San Diego Bay. The ambient noise environment in the proposed Project area is attributable to contributions from equipment and operations within the commercial areas and from traffic on roads near the site.

The proposed Project includes the installation of several pieces of equipment. The only new pieces of equipment that would produce substantial levels of noise are two transformers slated for installation at the east end of the B Street Pier. Based on the proposed capacity of the transformers, the NEMA-rated sound level of each transformer is estimated to be 72 dBA. Both

transformers would be expected to operate for 11 hours a day or less, between 7 a.m. and 7 p.m., when cruise ships are present.

Using the above information, compliance with San Diego's noise limits was assessed based on the estimated hourly Leq at the nearest potentially affected off-site location to the on-site transformers. Because the Project Site and surrounding Port properties are zoned for commercial uses, the applicable noise limit between 7 a.m. and 7 p.m. is 65 dBA.

Although the Port property boundary extends to Pacific Highway, the Port regularly applies the limits at its internal property divisions or parcels, which would be at the facility fence line. Because the equipment would be part of an electrical transmission facility, the noise limits apply at a location six feet beyond the eastern easement boundary, approximately 17 and 38 feet from the Phase 1 and Phase 2 transformers, respectively. The estimated extended easement boundary sound level with both transformers operating concurrently is approximately 72 dBA due to the fact that the location is within the near-field of the Phase 1 transformer. In order to be consistent with the San Diego noise limit of 65 dBA at this extended easement boundary location, a noise barrier would need to be constructed along the eastern property division/parcel boundary adjacent to the transformer or the transformers modified to decrease the amount of noise generated. Because the project boundary is not representative of any noise-sensitive outdoor use areas, a compatibility assessment is not applicable for this location.

In addition to the property line sound levels, the transformer-generated CNEL at the nearest sensitive receivers (residences) were estimated and added to the existing CNEL to assess compatibility of the overall sound level with residential uses. The residences nearest the proposed Project site are the Grande at Santa Fe condominium towers at 1199 Pacific Highway, approximately 850 feet from the proposed new equipment. The current ambient noise level at these receivers is estimated to be approximately 66 dBA CNEL (North Embarcadero Alliance Visionary Plan Draft MEIR and PMC Noise Measurements October 2009). The estimated hourly Leq at the nearest residences due to operation of the two transformers is less than 35 dBA. The calculated CNEL assuming both transformers operate for 11 hours between 7 a.m. and 7 p.m. is less than 32 dBA. This is much lower than the existing ambient level and would result in no increase in the overall ambient level. Therefore, no noise impact would be expected at these nearest residences from operation of the transformers.

In addition, the new equipment to be installed as part of the proposed Project is not a substantial source of ground-borne vibration. Therefore, the operations from the proposed Project are not expected to increase the exposure to ground-borne vibration nor create an adverse impact.

### ***Noise and Groundborne Vibration Levels – Construction***

Construction noise sources do not always correspond to 24-hour community noise standards because they occur only during selected times and the source strength varies with the type of equipment in use. Construction activities are also treated separately in municipal noise ordinances because they do not represent a chronic, permanent noise source. To abate the potential nuisance from construction noise, especially in proximity to any adjacent noise-sensitive development, the City of San Diego Noise Ordinance (Municipal Code

Ordinance No. 59.5.01-8) limits the hours of allowable construction activities and establishes performance standards for construction noise at any residentially zoned property. Construction is prohibited from 7:00 p.m. to 7:00 a.m. and on Sundays and selected holidays, unless a permit has been granted by the City. In addition, construction noise is limited to a maximum of 75 dBA 12-hour Leq in residential areas between the hours of 7:00 a.m. and 7:00 p.m. However, emergency construction is exempted from these criteria provided that adequate notice is given after the beginning of such activities.

The construction equipment associated with the proposed Project will primarily include backhoes, welding machines, trucks, cranes, and compactors. Examples of noise levels at a distance of 50 feet resulting from construction equipment are presented in Table XII-4. Appendix A discusses the number of each piece of equipment required for construction, which will occur on 128 days. The truck generates the highest noise level (i.e., 88 dBA). The nearest sensitive receivers (i.e., residences in the Grande at Santa Fe condominium towers) are at a distance of approximately 850 feet or more from the eastern edge of the Project Site. Using an estimated 6 dBA reduction in noise for doubling the distance to the source, truck noise will be reduced to 63 dBA, and thus, complies with the maximum noise restriction near a sensitive receiver. Because the truck generates the maximum noise levels of all construction equipment, all other construction noise levels are expected to be less than 63 dBA at the nearest residential receivers.

In addition, the compliance determination for temporary construction noises is based on average noise levels over 12 hours. All construction activities would be conducted in accordance with the City of San Diego Noise Ordinance (San Diego Municipal Code, Section 59.5.01), which limits loud construction noises to the hours of 7 a.m. to 7 p.m., Monday through Saturday. The majority of the construction activities will occur between approximately 7 a.m. to 7 p.m., Monday through Friday. Because most construction equipment does not operate consistently over a 12-hour period, the 12-hour average noise level is expected to be less than 75 dBA, even during truck activities. In the case that operational and schedule considerations necessitate construction activities on the weekends or after hours (i.e., after 7 p.m.), the facility will follow the appropriate process to obtain a waiver from the City's noise ordinance.

The truck component of construction is expected to occur over the majority of the construction, which is short term and will occur on 128 days over approximately six months. Because the truck component of construction, the largest contributor to noise levels during construction, would be short-term and below the City's construction noise limit, the proposed Project is anticipated to result in a less than significant impact associated with exposure of persons to excessive construction noise levels. During the construction, the Port would continue to comply with the requirements of the City of San Diego Noise Ordinance (San Diego Municipal Code, Section 59.5.01).



**Table XII-4. Construction Noise Sources and Noise Levels at 50-Foot**

| <b>Equipment</b> | <b>Typical Noise Levels <sup>(1),(2)</sup></b> |
|------------------|--|
| Pickup           | 70   |
| Welding Machines | 72   |
| Tractor Trailer  | 75   |
| Pumps            | 76   |
| Air compressor   | 81   |
| Backhoe          | 82   |
| Cranes           | 83   |
| Flatbed truck    | 84   |
| Truck            | 88   |

<sup>(1)</sup> Data is modified from the City of Los Angeles, 1998. Levels are in dBA at a 50-foot reference distance. These values are based on a range of equipment and operating conditions.

<sup>(2)</sup> Values are intended to reflect noise levels from equipment in good condition, with appropriate mufflers, air intake silencers, etc. In addition, these values assume averaging the sound level over all directions from the listed piece of equipment.

## 12.2 Mitigation Measures

In order to be consistent with the City of San Diego noise limits six feet from the transformer yard easement boundary, either a noise barrier would need to be constructed along the eastern property boundary or the transformer would be internally insulated in order to reduce the noise to below the City threshold. If the noise barrier is constructed, it will be located between the proposed replacement security fence and the main distribution equipment area. As a result, any potential impacts on aesthetics have already been analyzed and no effects would occur beyond those analyzed.

No significant noise impacts are expected to occur as a result of construction of the proposed Project. Therefore, no further construction noise mitigation is necessary.

| XIII. POPULATION AND HOUSING.   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|---|--------------------------------|---|------------------------------|-------------------------------------|
| Would the project:  |                                |   |                              |                                     |
| a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

### 13.1 Environmental Setting and Impacts

#### Population and Housing

The proposed Project proposes modifications to the B Street and Broadway piers needed to install shore power facilities. Project-related activities will not involve an increase, decrease or relocation of population. Construction of the proposed Project will require a maximum of 20 employees for approximately 128 days. These construction employees are expected to come from the existing labor pool in the San Diego area. Operation of the proposed Project is not expected to require any new permanent employees. Therefore, construction and operation of the proposed Project are not expected have significant impacts on population or housing, induce substantial population growth, or exceed the growth projections contained in any adopted plans.

#### 13.2 Mitigation Measures

The proposed Project is not expected to have a significant impact on population and housing. Accordingly, no mitigation measures are required.

| XIV. PUBLIC SERVICES. Would the project:  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|---|--------------------------------|---|------------------------------|-------------------------------------|
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: |                                |   |                              |                                     |
| Fire protection?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Police protection?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Schools?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Parks?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| Other public facilities?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## 14.1 Environmental Setting and Impacts

### Fire Protection

Fire protection services are provided to the B Street and Broadway piers by the City of San Diego Fire Department station (2<sup>nd</sup> Avenue Station) located less than one mile east of the proposed Project area. The proposed Project will not cause or contribute to an increase in cruise ship activities at the B Street and Broadway piers and thus is not expected to result in an increase or other change in the need for fire protection services. No new fire hazards are anticipated, and thus no significant impacts are expected.

### Police Protection

Police protection services are provided to the B Street and Broadway piers by the San Diego Harbor Police and the San Diego Police Department. The proposed Project will not cause or contribute to an increase in cruise ship activities at the B Street and Broadway piers and thus is not expected to result in an increase or other change in the need for police protection services.

### Schools, Parks and Other Facilities

The proposed Project involves the installation of shore power facilities at the B Street and Broadway piers. Employees from the local workforce are expected to fill the short-term construction positions and the few, if any because none are expected, additional permanent workers that will be required for operation of the proposed Project. Therefore, the proposed Project is not expected to have a potential impact on schools, parks, or other public facilities.

## 14.2 Mitigation Measures

Because no significant impacts to public services are expected as a result of the proposed Project, no mitigation is necessary.

|  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|--|--------------------------------|---|------------------------------|-------------------------------------|
| <b>XV. RECREATION.</b> Would the project:  |                                |   |                              |                                     |
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?                        | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## 15.1 Environmental Setting and Impacts

### Recreation

The proposed Project involves only the installation of shore power facilities and does not involve any change in the nature or extent of existing cruise ship activities at the B Street and Broadway piers. Accordingly, the proposed Project is not expected to cause or contribute to an increase in the use of recreation facilities or to require the construction of new or expanded recreation facilities in the project area. No significant impact to recreational facilities is expected to occur as a result of the proposed Project.

### 15.2 Mitigation Measures

No significant adverse impacts to recreational resources are expected to occur as a result of construction or operation of the proposed Project. Therefore, no mitigation is necessary.

| XVI. TRANSPORTATION/TRAFFIC.   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                           |
|--|--------------------------------|---|-------------------------------------|-------------------------------------|
| Would the project:   |                                |   |                                     |                                     |
| a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict with an applicable congestion management programs, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Conflict with adopted policies, plans, or programs supplying alternative transportation (e.g., bus turnouts, bicycle racks)?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## 16.1 Environmental Setting and Impacts

### Transportation and Traffic

The B Street and Broadway piers are located in downtown San Diego on North Harbor Drive in between West Ash Street and G Street. The Project site is approximately one mile from I-5. Vehicles traveling to the project site access the premises through the gated road adjacent to the parking lot south of the pedestrian exit located immediately south of the CST building. Service vehicles can also access the site at the gated entrance on the north side of the building.

The construction of the proposed Project will require up to 20 workers for a period of approximately 128 days. Sufficient parking for the construction workers is available in the current parking area (i.e., not on Harbor Drive). In the case that the parking capacity is

exceeded by the temporary workers required for construction of the proposed Project, the additional workers will park off-site and will be shuttled to the Project site. The two closest major intersections are the intersection of Harbor Drive and West Ash Street, and the intersection of Harbor Drive and West Broadway. The most likely affected intersection for workers commuting from the south (i.e., traveling north on I-5) is Harbor Drive and West Hawthorne Street.; the most likely affected intersection for workers commuting from the north (i.e., traveling south on I-5) is Harbor Drive and West Ash Street. Because a maximum of 20 workers are expected to be required during construction, a maximum of 20 additional vehicles will travel through one of these four intersections. Even if all 20 trips went through the same intersection, this represents only a minimal increase in traffic. In addition, the minimal increase will last for a short time period and does not constitute a significant impact to the capacity of the existing circulation system. It is therefore not expected to conflict with applicable congestion management programs.

Excavation of trenches, with subsequent backfilling and restoration, to install SDG&E cables in buried conduits will occur along Broadway Street from the Station B Substation, and on both the eastern and western sides of Harbor Drive. This installation will require trenching activities on or across Harbor Drive in order to reach the proposed Project site. These trenching activities will create short-term impacts to traffic and are expected to last for fewer than 40 days. SDG&E and any subcontractors will complete the trenching following a schedule designed to reduce all traffic impacts, including minimizing any road closures, to the greatest extent feasible. Due to the short duration and anticipated mitigation measures, the SDG&E off-site construction activities are expected to have a less than significant effect on traffic congestion. SDG&E will develop a traffic control plan in consultation with the City of San Diego for all works involving roadways to avoid impacts to traffic circulation and public safety.

The operation of the proposed Project is not expected to require an increase in the number of permanent employees at the project site. Because the increased number of vehicles traveling to the project location on a daily basis will not change during operations, the level of service is not expected to change at any nearby intersections. In addition, the proposed Project will not cause or contribute to an increase in the existing number of passengers embarking or disembarking from cruise ships that berth at the B Street and Broadway piers. Therefore, no significant adverse impacts on parking are expected.

### **Emergency Access**

The proposed Project is not expected to cause or contribute to any change in the existing emergency access to the project site. Emergency vehicles will continue to access the site through the gates described above. The location and installation of the shore power equipment will not require the construction of new roadways and will not require or result in a change in existing internal circulation patterns. Therefore, the impact to emergency access is expected to be less than significant.

### **Air Traffic Patterns**

The proposed Project is less than two miles from San Diego International Airport. The proposed Project includes modifications to existing facilities and will not involve the delivery of materials via air. In addition, the proposed Project would not involve the construction of any structures that

would result in a safety risk associated with air traffic patterns. Therefore, no increase in air traffic or impact on air traffic patterns is expected

### **Design Use Hazards**

The proposed Project does not involve construction of roads or use of incompatible equipment on roads (e.g., farm equipment). Therefore, no increased hazards due to a design feature or incompatible use are expected.

### **Alternative Transportation**

As discussed above, the construction phase of the proposed Project is expected to require approximately 20 additional employees for a period of approximately 128 days. The operations phase of the proposed Project is not expected to result in an increase in the number of employees or cruise ship passengers traveling to or from the B Street and Broadway piers. As a result, the proposed Project is not expected to conflict with adopted policies, plans or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

### **16.2 Mitigation Measures**

The proposed Project is not expected to cause or contribute to a significant impact on transportation or traffic. Accordingly, no mitigation measures are required.

|   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|---|--------------------------------|---|------------------------------|-------------------------------------|
| <b>XVII. UTILITIES AND SERVICE SYSTEMS.</b> Would the project:  |                                |   |                              |                                     |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effect?                             | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effect?                                      | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

## 17.1 Environmental Setting and Impacts

### Wastewater and Storm water

The proposed Project involves the installation and operation of shore power equipment and is not expected to cause or contribute to a change in the quality or quantity of wastewater associated with the project site. The Port implements best management practices to prevent pollutants from entering the storm water discharge system (e.g., curb inlet filters at the main and bus parking areas, perimeter BMPs, adherence to Stormwater Pollution Prevention Plan, straw swales). Construction and operation of the proposed Project would not result in a substantial



increase in runoff volumes or velocities, and would not exceed the design capacity of the existing storm water conveyance system. No additional wastewater will be generated due to the operation or construction of the proposed Project and thus, the construction and operation of the proposed Project is not expected to result in an exceedance of the wastewater treatment requirements of the RWQCB. Because the proposed Project would not result in a substantial increase in wastewater demand, the existing waste water system will be adequate to accommodate the proposed Project.

The existing pavement that is to be excavated will be backfilled and restored to its original condition. There will be containment curbs around the proposed structures to capture runoff. Storm water runoff patterns would continue to be consistent with existing conditions. The B Street and Broadway piers operate under an industrial storm water permit, and the Port monitors runoff during the wet season. No significant impact is expected from the proposed Project.

### **Water Demand**

The City of San Diego supplies water to the project site. The proposed Project is not expected to increase the water demand at the project site. Construction and operation of the proposed Project would continue to use the existing connections. Therefore, the potential impacts to groundwater levels or freshwater aquifer supplies would not be significant.

### **Waste Disposal and Regulations**

Waste generated by construction of the proposed Project will be recycled and disposed of in accordance with the City of San Diego's regulations and would not include hazardous waste. The operation of the proposed Project is not expected to generate any additional waste. No significant impact is expected as a result of the proposed Project.

### **17.2 Mitigation Measures**

The proposed Project is not expected to cause or contribute to a significant impact on utilities and services systems. Accordingly, no mitigation measures are required.

| XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. Would the project:  | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact        | No Impact                |
|--|--------------------------------|---|-------------------------------------|--------------------------|
| a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probable future projects)   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## 18. Mandatory Findings of Significance

### Quality of the Environment

The proposed Project will be located on the B Street and Broadway piers, which are existing port facilities in a highly developed and urbanized area of downtown San Diego. The construction and operation of the proposed Project will occur entirely within the confines of the existing facility and will not affect the San Diego Bay, Western Hemisphere Shorebird Reserve Site, or SMNWR. The proposed Project is not expected to have a significant impact on the quality or quantity of any fish or wildlife species or their habitat, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community or reduce the number or restrict the range of a rare or endangered plant or animal. The proposed Project will not eliminate or otherwise affect important examples of the major periods of California history or prehistory.

## Cumulative Impacts

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (§15355). By this definition, individual effects can result from a single project or multiple individual projects. The cumulative impact is also considered the incremental impact from a proposed Project that is then added to the impact of past, present, and reasonably foreseeable future projects. In other words, a proposed Project may have less than significant direct impacts but may have significant cumulatively considerable impacts.

The proposed Project involves installing shore power electrical equipment, automation and operational software infrastructure, concrete mounting pads, fencing, and other ancillary improvements. With respect to the categories listed in the environmental checklist discussed in Sections I through XVII above, the proposed Project results in either less than significant impacts or no impacts. The proposed Project does not result in any significant impacts.

The following categories were found to result in no impact due to the proposed Project: agriculture, cultural resources, mineral resources, population and housing, public services, recreation, and utilities and service systems.

The following categories were found to result in less than significant impacts due to the proposed Project: aesthetics, air quality, biological resources, geology and soils, global climate change, hazards and hazardous materials, hydrology and water quality, land use and planning, noise (with mitigation), and transportation/traffic.

With respect to aesthetics, no cumulative impacts are expected because the Project will have a less than significant impact on all potential areas. There will be a less than significant impact on scenic vistas, scenic resources, visual character of the surrounding area, or increase in light or glare. No cumulatively considerable impact is expected on other known projects in the local area (e.g., NEAVP projects).

The proposed Project’s air emissions and ambient air quality impacts are below the SDAPCD’s thresholds for all criteria air pollutants and in fact, result in a reduction of air pollutants. Based on the SDAPCD thresholds and City of San Diego guidance related to cumulative impacts, no significant adverse air quality impacts are expected, either individually or cumulatively.

With respect to biological resources, no cumulative impacts are expected because the proposed Project does not conflict with any local policies or ordinances, or with local, state, or federal conservation plans. No significant adverse impacts to biological resources are expected, either individually or cumulatively.

With respect to geology, no cumulative geology impacts are expected because all of the structures associated with the proposed Project will be built in conformance with the UBC. In addition, the site is not located on unstable or expansive soils. Therefore, no significant change in impacts to geology is expected at the site, and no cumulative geology impacts are expected.

The state and local air agencies have not adopted CEQA GHG guidance concerning significance determinations. However, based on the fact that this Project results in an overall

reduction of GHGs and consistent with City of San Diego guidance for other environmental impact areas, it is determined that the Project's cumulative GHG impacts are less than significant.

With respect to hazards, PCBs will be used in the transformers to be installed as part of the proposed Project. However, the additional use will be minimal and no cumulative hazard impacts are expected. Therefore, no significant change in hazards is expected at the Port, and no cumulative hazard or hazardous materials impacts are expected.

The proposed Project will have a less than significant impact on water quality and waste discharge. It will not significantly impact either drainage patterns or runoff quantity or quality. Additionally, groundwater recharge and supplies will not be impacted. Therefore, no cumulative impacts to hydrology or water quality are expected.

With respect to land use and planning, the proposed Project does not impact the existing land use or physically divide an existing community. It is consistent with the PMP, the Green Port Policy, and all applicable land use plans or policies. There is no applicable habitat conservation plan. As a result, the proposed Project does not result in cumulatively significant impacts to land use or planning.

With respect to noise, no cumulative impacts are expected due to less than significant noise levels during operation of the mitigated Project. Although the new equipment being installed may generate potentially significant impacts to noise compared to existing equipment, mitigation measures have been incorporated into the Project to avoid or reduce to below the level of significance the potential noise impacts. Also, groundborne vibration is not projected to increase during the proposed Project. As described above, the construction of the proposed Project will result in a slight increase in noise levels and groundborne vibration levels. However, these impacts are not substantial and are temporary. Therefore, with the incorporation of mitigation, no significant adverse noise impacts would result from the Project, and no cumulative impacts on noise levels are expected.

The proposed Project is not expected to significantly impact the capacity of the existing traffic circulation system or conflict with applicable congestion management programs. It does not conflict with alternative transportation programs or policies, or increase hazards through the addition of design hazards or incompatible uses. Additionally, it does not result in inadequate emergency access or change air traffic patterns. As a result, no significant change is expected for land use or planning at the Port, and no cumulative impacts are expected.

The existing Master EIR (MEIR) for the North Embarcadero Alliance Visionary Plan (NEAVP) indicated that the following categories would have significant impacts: aesthetics, air quality, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality, land use/planning, noise, public services, transportation/traffic, and utilities/service systems. However, mitigation measures were provided in the Final EIR and all potential significant impacts were mitigated below significance for all of these categories. Because the proposed Project is not expected to result in a significant increase in impacts to these areas, the proposed Project will not have cumulatively considerable impacts related to the NEAVP.

The proposed Project is consistent with and meets several goals outlined as part of the Green Port Program. Namely, the proposed Project seeks to implement shore power to reduce operational emissions of criteria pollutants and GHGs.

Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Based on the analysis above, the proposed Project's contribution to air quality, aesthetics, biological resources, geology and soils, global climate change, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, and transportation/traffic are not cumulatively considerable and thus not significant. This conclusion is consistent with CEQA Guidelines §15064 (h)(4), which states, "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed Project's incremental effects are cumulatively considerable". Therefore, the proposed Project is not expected to result in significant adverse cumulative impacts.

### **Direct or Indirect Adverse Effects**

The proposed Project will install equipment to allow ships to use shore power while in berth at the CST. The proposed Project is expected to result in a decrease in criteria and TAC pollutants and no adverse related health effects are expected. The proposed Project also is expected to result in a decrease in GHG emissions compared to the CEQA baseline. The proposed Project is not expected to increase the potential hazard impacts and the hazard impacts were determined to be less than significant. Therefore, no significant health impacts or other adverse impacts to humans are expected, either directly or indirectly, due to the construction or operation of the proposed Project.

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## Acronyms

| Abbreviation       | Description   |
|--------------------|---|
| AB                 | Assembly bill   |
| AB 32              | Assembly bill 32: California's Global Warming Solutions Act of 2006 |
| AHM                | acutely hazardous material  |
| ALUCP              | airport land use compatibility plan                                 |
| AQIA               | Air Quality Impact Analysis   |
| Basin              | San Diego Air Basin   |
| CAAQS              | California Ambient Air Quality Standards                            |
| CalEPA             | California State Environmental Protection Agency                    |
| CAP                | Clean Air Program   |
| CAPCOA             | California Air Pollution Control Officers Association               |
| CARB               | California Air Resources Board                                      |
| CAT                | Climate Action Team   |
| CEQA               | California Environmental Quality Act                                |
| CH <sub>4</sub>    | methane   |
| CLUP               | Comprehensive Land Use Plan   |
| CO                 | Carbon monoxide   |
| CO <sub>2</sub>    | Carbon dioxide  |
| CO <sub>2</sub> eq | CO <sub>2</sub> equivalent  |
| CPUC               | California Public Utilities Commission                              |
| CST                | Cruise Ship Terminal  |
| dBA                | A-weighted noise level measurement in decibels                      |
| DPM                | diesel particulate matter   |
| EIR                | Environmental Impact Report   |
| EPA                | Environmental Protection Agency                                     |
| EPS                | Emissions Performance Standard                                      |
| ERPG               | Emergency Response Planning Guideline                               |
| GHG                | greenhouse gas  |
| HC                 | hydrocarbon   |
| HFC                | hydrofluorocarbon   |
| I-5                | Interstate 5  |
| IPCC               | Intergovernmental Panel on Climate Change                           |
| IS                 | Initial study   |
| kV                 | kilovolt  |
| lbs                | pounds  |
| lbs/hr             | pounds per hour   |
| LOS                | Level of Service  |
| MDO                | marine diesel oil   |
| MGO                | marine gas oil  |
| MEIR               | Maximum exposed individual resident                                 |
| MEIW               | Maximum exposed individual worker                                   |
| MLLW               | mean lower low water  |
| MND                | Mitigated negative declaration                                      |
| N <sub>2</sub>     | nitrogen  |

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|                   |  |
|-------------------|--|
| N <sub>2</sub> O  | nitrous oxide  |
| NAAQS             | National Ambient Air Quality Standards               |
| NEVP              | North Embarcadero Visionary Plan                     |
| NOP               | Notice of Preparation                                |
| NO <sub>x</sub>   | nitrogen oxide                                       |
| NPDES             | National Pollutant Discharge Elimination System      |
| O <sub>3</sub>    | ozone  |
| OEHHA             | Office of Environmental Health Hazard Assessment     |
| OPR               | Office of Planning and Research                      |
| PCBs              | polychlorinated biphenyls                            |
| PFC               | perfluorocarbon                                      |
| PM                | particulate matter                                   |
| PM <sub>2.5</sub> | particulate matter less than 2.5 microns in diameter |
| PM <sub>10</sub>  | particulate matter less than 10 microns in diameter  |
| PMP               | Port Master Plan                                     |
| Port              | San Diego Unified Port District                      |
| Port District     | San Diego Unified Port District                      |
| ppm               | parts per million                                    |
| ppmv              | parts per million by volume                          |
| RAQS              | Regional Air Quality Strategy                        |
| SB                | Senate bill  |
| SCAQMD            | South Coast Air Quality Management District          |
| SDAPCD            | San Diego Air Pollution Control District             |
| SDG&E             | San Diego Gas & Electric                             |
| SDIA              | San Diego International Airport                      |
| SF <sub>6</sub>   | sulfur hexafluoride                                  |
| SIP               | State Implementation Plan                            |
| SLT               | Screening-level threshold                            |
| SMNWR             | Sweetwater Marsh National Wildlife Refuge            |
| SO <sub>x</sub>   | sulfur oxide   |
| TACs              | toxic air contaminants                               |
| UBC               | Uniform Building Code                                |
| µg/l              | micrograms per liter                                 |
| µg/m <sup>3</sup> | micrograms per cubic meter                           |
| US EPA            | United States Environmental Protection Agency        |
| USFWS             | United States Fish and Wildlife Service              |
| VOC               | volatile organic compounds                           |



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## Glossary

| <b>Term</b>   | <b>Definition</b>  |
|---------------|--|
| Ambient Noise | The background sound of an environment in relation to which all additional sounds are heard  |
| Cold Ironing  | Supplying power from the shore to ships at berth to eliminate the need for vessels to use their own engines. See also “shore power.”   |
| dBA           | The decibel (dDB) is one tenth of a <i>bel</i> where one bel represents a difference in noise level between two intensities $I_1$ , $I_0$ where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear. |
| Hotelling     | Operations on a marine vessel at berth that require electric energy to power operations, including, but not limited to, lights, ventilation, heating, cooling, and loading and unloading operations  |
| Seiches       | A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which many change in intensity.   |
| Shore Power   | Supplying power from the shore to ships at berth to eliminate the need for vessels to use their own engines. See also “cold ironing.”  |

**APPENDIX A**

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**CONSTRUCTION EMISSIONS FROM PROPOSED PROJECT**

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CONSTRUCTION EMISSIONS FROM PROPOSED PROJECT:  
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## APPENDIX A

### CONSTRUCTION EMISSIONS FROM PROPOSED PROJECT

#### Introduction

This Appendix details the emission factors and methods used to calculate the construction emissions from the proposed Project. The construction activities that will be required include excavation, backfilling, welding, pile driving, and other similar activities. Emissions will be generated from the combustion of fuel (primarily diesel) in the construction equipment as well as from the diesel mobile source vehicles used on-site. Offroad 2007 (CARB, 2007b) was used to calculate emissions from off-road and construction vehicles. The following assumptions were used in the five phases of construction activity as well as for calculation of fugitive dust emissions:

- Construction 1: Demolition and excavation for (a) equipment compound, (b) conduit trenching, and (c) ground switch and jib
  - One skid steer loader (75 hp), one backhoe (110 hp), one saw cutter (55 hp), two dump trucks (350 hp), one air compressor (60 hp), and one wheel loader (150 hp) over a period of twenty days for Construction 1a, 1b, and 1c.
- Construction 2: Backfill, compacting, and paving for (a) equipment compound, (b) conduit, and (c) ground switch
  - Construction 2a: One skid steer loader (75 hp), one backhoe (110 hp), one saw cutter (55 hp), one dump truck (350 hp), and one welding generator (50 hp) over a period of twenty days
  - Construction 2b: one skid steer loader (75 hp), one backhoe (110 hp), one dump truck (350 hp), one air compressor (60 hp), one wheel loader (150 hp), one concrete truck (350 hp), one vibratory compactor (83 hp), and one welding generator (50 hp) over a period of twenty days
  - Construction 2c: one skid steer loader (75 hp), one backhoe (110 hp), two dump trucks (350 hp), one air compressor (60 hp), one wheel loader (150 hp), one concrete truck (350 hp), one vibratory compactor (83 hp), and one welding generator (50 hp) over a period of twenty days
- Construction 3: Equipment delivery and installation
  - One tractor trailer (350 hp), one crane (216 hp), and one welding generator (50 hp) over a period of twenty day
- Construction 4: SDG&E Cables/Trench Installation
  - Construction 4a: One skid steer loader (75 hp), one backhoe (110 hp), one saw cutter (55 hp), two dump trucks (350 hp), one air compressor (60 hp), and one wheel loader (150 hp) over a period of twenty days
  - Construction 4b: One skid steer loader (75 hp), one backhoe (110 hp), one saw cutter (55 hp), two dump trucks (350 hp), one air compressor (60 hp), and one wheel loader (150 hp) over a period of twenty days
- Fugitive Dust (Construction 1a, 1b, 1c, 2a, 2b, 2c, 4a, and 4b)
  - Emission factor of 20 lbs/acre/day consistent with the URBEMIS methodology (URBEMIS Manual Appendix, page A-6)
- All construction phases
- One work day = 8 hours

Tables A.1 and A.2 summarize the emissions associated with construction activities, divided by equipment type, on an hourly and on a daily basis. Table A.3 summarizes the fugitive dust emissions associated with construction activities. Table A.4 summarizes the total daily emissions from each phase of construction.

Appendix A: Construction Emissions from Proposed Project

TABLE A.1

CONSTRUCTION ACTIVITIES AND EMISSION FACTORS

| Phase                            | Days     | Equipment                          | Quantity | HP  | Days | Total hours | Load factor | Emission factors (lb/hr) |          |                 |                 |                 |          |                  |                 |
|----------------------------------|----------|------------------------------------|----------|-----|------|-------------|-------------|--------------------------|----------|-----------------|-----------------|-----------------|----------|------------------|-----------------|
|                                  |          |                                    |          |     |      |             |             | ROG                      | CO       | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM       | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 1: Demo/ Excavation |          |                                    |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |
| <i>1a: Equipment compound</i>    | 1 to 20  | Skid steer loader (1) <sup>2</sup> | 1        | 75  | 20   | 160         | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|                                  |          | Backhoe (1) <sup>3</sup>           | 1        | 110 | 20   | 160         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|                                  |          | Saw cutter (1) <sup>4</sup>        | 1        | 55  | 20   | 160         | 0.73        | 1.34E-01                 | 4.97E-01 | 8.59E-01        | 7.41E+01        | 8.69E-04        | 7.19E-02 | 0.00E+00         | 1.21E-02        |
|                                  |          | Dump truck (2) <sup>5</sup>        | 2        | 350 | 20   | 320         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|                                  |          | Air compressor (1) <sup>6</sup>    | 1        | 60  | 20   | 160         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|                                  |          | Wheel loader (1) <sup>7</sup>      | 1        | 150 | 20   | 160         | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
|                                  |          |                                    |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |
| <i>1b: Conduit trenching</i>     | 21 to 40 | Skid steer loader (1) <sup>2</sup> | 1        | 75  | 20   | 160         | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|                                  |          | Backhoe (1) <sup>3</sup>           | 1        | 110 | 20   | 160         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|                                  |          | Saw cutter (1) <sup>4</sup>        | 1        | 55  | 20   | 160         | 0.73        | 1.34E-01                 | 4.97E-01 | 8.59E-01        | 7.41E+01        | 8.69E-04        | 7.19E-02 | 0.00E+00         | 1.21E-02        |
|                                  |          | Dump truck (2) <sup>5</sup>        | 2        | 350 | 20   | 320         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|                                  |          | Air compressor (1) <sup>6</sup>    | 1        | 60  | 20   | 160         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|                                  |          | Wheel loader (1) <sup>7</sup>      | 1        | 150 | 20   | 160         | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
|                                  |          |                                    |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |
| <i>1c: Ground switch/jib</i>     | 41 to 48 | Skid steer loader (1) <sup>2</sup> | 1        | 75  | 8    | 64          | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|                                  |          | Backhoe (1) <sup>3</sup>           | 1        | 110 | 8    | 64          | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|                                  |          | Saw cutter (1) <sup>4</sup>        | 1        | 55  | 8    | 64          | 0.73        | 1.34E-01                 | 4.97E-01 | 8.59E-01        | 7.41E+01        | 8.69E-04        | 7.19E-02 | 0.00E+00         | 1.21E-02        |
|                                  |          | Dump truck (2) <sup>5</sup>        | 2        | 350 | 8    | 128         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|                                  |          | Air compressor (1) <sup>6</sup>    | 1        | 60  | 8    | 64          | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|                                  |          | Wheel loader (1) <sup>7</sup>      | 1        | 150 | 8    | 64          | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
|                                  |          |                                    |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |
|                                  |          |                                    |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |

## Appendix A: Construction Emissions from Proposed Project

TABLE A.1

## CONSTRUCTION ACTIVITIES AND EMISSION FACTORS

| Phase  | Days     | Equipment                                | Quantity | HP  | Days | Total hours | Load factor | Emission factors (lb/hr) |          |                 |                 |                 |          |                  |                 |
|--|----------|--|----------|-----|------|-------------|-------------|--------------------------|----------|-----------------|-----------------|-----------------|----------|------------------|-----------------|
|  |          |  |          |     |      |             |             | ROG                      | CO       | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM       | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 2: Backfill/Compacting/Paving   |          |  |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |
| <i>2a: Equipment compound (pads)</i>         | 49 to 63 | Skid steer loader (1) <sup>2</sup>       | 1        | 75  | 15   | 120         | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|  |          | Backhoe (1) <sup>3</sup>                 | 1        | 110 | 15   | 120         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|  |          | Saw cutter (1) <sup>4</sup>              | 1        | 55  | 15   | 120         | 0.73        | 1.34E-01                 | 4.97E-01 | 8.59E-01        | 7.41E+01        | 8.69E-04        | 7.19E-02 | 0.00E+00         | 1.21E-02        |
|  |          | Dump truck (1) <sup>5</sup>              | 1        | 350 | 15   | 120         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|  |          | Welding generator (1) <sup>9</sup>       | 1        | 50  | 15   | 120         | 0.62        | 1.03E-01                 | 2.93E-01 | 2.78E-01        | 2.80E+01        | 3.62E-04        | 2.63E-02 | 0.00E+00         | 9.32E-03        |
| <i>2b: Conduit (trench backfill/restore)</i> | 64 to 78 | Skid steer loader (1) <sup>2</sup>       | 1        | 75  | 15   | 120         | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|  |          | Backhoe (1) <sup>3</sup>                 | 1        | 110 | 15   | 120         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|  |          | Dump truck (1) <sup>5</sup>              | 1        | 350 | 15   | 120         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|  |          | Air compressor (1) <sup>6</sup>          | 1        | 60  | 15   | 120         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|  |          | Wheel loader (1) <sup>7</sup>            | 1        | 150 | 15   | 120         | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
|  |          | Concrete and A.C. trucks(1) <sup>5</sup> | 1        | 350 | 15   | 120         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|  |          | Vibratory compactor (1) <sup>6</sup>     | 1        | 83  | 15   | 120         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|  |          | Welding generator (1) <sup>9</sup>       | 1        | 50  | 15   | 120         | 0.62        | 1.03E-01                 | 2.93E-01 | 2.78E-01        | 2.80E+01        | 3.62E-04        | 2.63E-02 | 0.00E+00         | 9.32E-03        |
| <i>2c: Ground switch</i>                     | 79 to 88 | Skid steer loader (1) <sup>2</sup>       | 1        | 75  | 10   | 80          | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|  |          | Backhoe (1) <sup>3</sup>                 | 1        | 110 | 10   | 160         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|  |          | Dump truck (2) <sup>5</sup>              | 2        | 350 | 10   | 80          | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|  |          | Air compressor (1) <sup>6</sup>          | 1        | 60  | 10   | 80          | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|  |          | Wheel loader (1) <sup>7</sup>            | 1        | 150 | 10   | 80          | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
|  |          | Concrete and A.C. trucks(1) <sup>5</sup> | 1        | 350 | 10   | 80          | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|  |          | Vibratory compactor (1) <sup>6</sup>     | 1        | 83  | 10   | 80          | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|  |          | Welding generator (1) <sup>9</sup>       | 1        | 50  | 10   | 80          | 0.62        | 1.03E-01                 | 2.93E-01 | 2.78E-01        | 2.80E+01        | 3.62E-04        | 2.63E-02 | 0.00E+00         | 9.32E-03        |

## Appendix A: Construction Emissions from Proposed Project

TABLE A.1

## CONSTRUCTION ACTIVITIES AND EMISSION FACTORS

| Phase   | Days       | Equipment                                | Quantity | HP  | Days | Total hours | Load factor | Emission factors (lb/hr) |          |                 |                 |                 |          |                  |                 |
|---|------------|--|----------|-----|------|-------------|-------------|--------------------------|----------|-----------------|-----------------|-----------------|----------|------------------|-----------------|
|   |            |  |          |     |      |             |             | ROG                      | CO       | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM       | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 3: Equipment Delivery and Installation (SDG&E Primary and Cochran Secondary) | 89 to 108  | Tractor trailer (1) <sup>1</sup>         | 1        | 350 | 20   | 160         |             |                          |          |                 |                 |                 |          |                  |                 |
|   |            | Crane (1) <sup>10</sup>                  | 1        | 216 | 20   | 160         | 0.43        | 1.24E-01                 | 3.46E-01 | 1.24E+00        | 1.12E+02        | 1.26E-03        | 4.69E-02 | 0.00E+00         | 1.12E-02        |
|   |            | Welding generator (1) <sup>9</sup>       | 1        | 50  | 20   | 160         | 0.62        | 1.03E-01                 | 2.93E-01 | 2.78E-01        | 2.80E+01        | 3.62E-04        | 2.63E-02 | 0.00E+00         | 9.32E-03        |
| Construction 4: SDG&E Cables/trench construction  |            |  |          |     |      |             |             |                          |          |                 |                 |                 |          |                  |                 |
| <i>4a: Conduit trenching</i>  | 89 to 128  | Skid steer loader (1) <sup>2</sup>       | 1        | 75  | 40   | 320         | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|   |            | Backhoe (1) <sup>3</sup>                 | 1        | 110 | 40   | 320         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|   |            | Saw cutter (1) <sup>4</sup>              | 1        | 55  | 40   | 320         | 0.73        | 1.34E-01                 | 4.97E-01 | 8.59E-01        | 7.41E+01        | 8.69E-04        | 7.19E-02 | 0.00E+00         | 1.21E-02        |
|   |            | Dump truck (2) <sup>5</sup>              | 2        | 350 | 40   | 640         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|   |            | Air compressor (1) <sup>6</sup>          | 1        | 60  | 40   | 320         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|   |            | Wheel loader (1) <sup>7</sup>            | 1        | 150 | 40   | 320         | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
| <i>4b: Conduit (trench backfill/restore)</i>  | 109 to 128 | Skid steer loader (1) <sup>2</sup>       | 1        | 75  | 20   | 160         | 0.55        | 6.06E-02                 | 2.82E-01 | 4.13E-01        | 4.27E+01        | 5.01E-04        | 3.55E-02 | 0.00E+00         | 5.47E-03        |
|   |            | Backhoe (1) <sup>3</sup>                 | 1        | 110 | 20   | 160         | 0.55        | 9.09E-02                 | 3.62E-01 | 5.66E-01        | 5.17E+01        | 6.06E-04        | 5.15E-02 | 0.00E+00         | 8.20E-03        |
|   |            | Dump truck (2) <sup>5</sup>              | 2        | 350 | 20   | 320         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|   |            | Air compressor (1) <sup>6</sup>          | 1        | 60  | 20   | 160         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|   |            | Wheel loader (1) <sup>7</sup>            | 1        | 150 | 20   | 160         | 0.55        | 1.22E-01                 | 5.88E-01 | 9.64E-01        | 1.01E+02        | 1.14E-03        | 5.62E-02 | 0.00E+00         | 1.10E-02        |
|   |            | Concrete and A.C. trucks(1) <sup>5</sup> | 1        | 350 | 20   | 160         | 0.57        | 2.49E-01                 | 7.53E-01 | 2.32E+00        | 2.72E+02        | 2.67E-03        | 8.71E-02 | 0.00E+00         | 2.25E-02        |
|   |            | Vibratory compactor (1) <sup>8</sup>     | 1        | 83  | 20   | 160         | 0.62        | 1.32E-01                 | 5.41E-01 | 8.64E-01        | 8.08E+01        | 9.48E-04        | 7.40E-02 | 0.00E+00         | 1.19E-02        |
|   |            | Welding generator (1) <sup>9</sup>       | 1        | 50  | 20   | 160         | 0.62        | 1.03E-01                 | 2.93E-01 | 2.78E-01        | 2.80E+01        | 3.62E-04        | 2.63E-02 | 0.00E+00         | 9.32E-03        |

1 Tractor trailer, diesel, 350 hp.

2 Skid Steer Loaders, diesel, 50-120 hp.

3 Tractors/loaders/backhoes, diesel, 50-120 hp.

4 Concrete/Industrial Saws, diesel, 50-120 hp.

5 Off-Highway Trucks, 250-500 hp.

6 Other Construction Equipment, diesel, 50-120 hp.

7 Tractors/Loaders/Backhoes, diesel, 120-175 hp.

8 Other Construction Equipment, diesel, 175-500 hp.

9 Other Construction Equipment, diesel, 25-50 hp.

10 Crane, diesel, 175-250 hp.

## Appendix A: Construction Emissions from Proposed Project

TABLE A.2

## CONSTRUCTION ACTIVITIES AND DAILY EMISSIONS

| Phase                            | Days     | Equipment              | Quantity | HP  | Days | Total hours | Load factor | Emissions (lb/day) |      |                 |                 |                 |      |                  |                 |
|----------------------------------|----------|------------------------|----------|-----|------|-------------|-------------|--------------------|------|-----------------|-----------------|-----------------|------|------------------|-----------------|
|                                  |          |                        |          |     |      |             |             | ROG                | CO   | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM   | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 1: Demo/ Excavation |          |                        |          |     |      |             |             |                    |      |                 |                 |                 |      |                  |                 |
| 1a: Equipment compound           | 1 to 20  | Skid steer loader (1)2 | 1        | 75  | 20   | 160         | 0.55        | 0.27               | 1.24 | 1.82            | 187.98          | 0.00            | 0.16 | 0.00             | 0.02            |
|                                  |          | Backhoe (1)3           | 1        | 110 | 20   | 160         | 0.55        | 0.40               | 1.59 | 2.49            | 227.40          | 0.00            | 0.23 | 0.00             | 0.04            |
|                                  |          | Saw cutter (1)4        | 1        | 55  | 20   | 160         | 0.73        | 0.78               | 2.90 | 5.02            | 432.65          | 0.01            | 0.42 | 0.00             | 0.07            |
|                                  |          | Dump truck (2)5        | 2        | 350 | 20   | 320         | 0.57        | 2.27               | 6.87 | 21.13           | 2481.46         | 0.02            | 0.79 | 0.00             | 0.20            |
|                                  |          | Air compressor (1)6    | 1        | 60  | 20   | 160         | 0.62        | 0.65               | 2.69 | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|                                  |          | Wheel loader (1)7      | 1        | 150 | 20   | 160         | 0.55        | 0.53               | 2.59 | 4.24            | 445.70          | 0.01            | 0.25 | 0.00             | 0.05            |
|                                  |          | TOTALS                 |          |     |      |             |             |                    | 4.91 | 17.88           | 38.98           | 4175.88         | 0.04 | 2.21             | 0.00            |
| 1b: Conduit trenching            | 21 to 40 | Skid steer loader (1)2 | 1        | 75  | 20   | 160         | 0.55        | 0.27               | 1.24 | 1.82            | 187.98          | 0.00            | 0.16 | 0.00             | 0.02            |
|                                  |          | Backhoe (1)3           | 1        | 110 | 20   | 160         | 0.55        | 0.40               | 1.59 | 2.49            | 227.40          | 0.00            | 0.23 | 0.00             | 0.04            |
|                                  |          | Saw cutter (1)4        | 1        | 55  | 20   | 160         | 0.73        | 0.78               | 2.90 | 5.02            | 432.65          | 0.01            | 0.42 | 0.00             | 0.07            |
|                                  |          | Dump truck (2)5        | 2        | 350 | 20   | 320         | 0.57        | 2.27               | 6.87 | 21.13           | 2481.46         | 0.02            | 0.79 | 0.00             | 0.20            |
|                                  |          | Air compressor (1)6    | 1        | 60  | 20   | 160         | 0.62        | 0.65               | 2.69 | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|                                  |          | Wheel loader (1)7      | 1        | 150 | 20   | 160         | 0.55        | 0.53               | 2.59 | 4.24            | 445.70          | 0.01            | 0.25 | 0.00             | 0.05            |
|                                  |          | TOTALS                 |          |     |      |             |             |                    | 4.91 | 17.88           | 38.98           | 4175.88         | 0.04 | 2.21             | 0.00            |
| 1c: Ground switch/jib            | 41 to 48 | Skid steer loader (1)2 | 1        | 75  | 8    | 64          | 0.55        | 0.27               | 1.24 | 1.82            | 187.98          | 0.00            | 0.16 | 0.00             | 0.02            |
|                                  |          | Backhoe (1)3           | 1        | 110 | 8    | 64          | 0.55        | 0.40               | 1.59 | 2.49            | 227.40          | 0.00            | 0.23 | 0.00             | 0.04            |
|                                  |          | Saw cutter (1)4        | 1        | 55  | 8    | 64          | 0.73        | 0.78               | 2.90 | 5.02            | 432.65          | 0.01            | 0.42 | 0.00             | 0.07            |
|                                  |          | Dump truck (2)5        | 2        | 350 | 8    | 128         | 0.57        | 2.27               | 6.87 | 21.13           | 2481.46         | 0.02            | 0.79 | 0.00             | 0.20            |
|                                  |          | Air compressor (1)6    | 1        | 60  | 8    | 64          | 0.62        | 0.65               | 2.69 | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|                                  |          | Wheel loader (1)7      | 1        | 150 | 8    | 64          | 0.55        | 0.53               | 2.59 | 4.24            | 445.70          | 0.01            | 0.25 | 0.00             | 0.05            |
|                                  |          | TOTALS                 |          |     |      |             |             |                    | 4.91 | 17.88           | 38.98           | 4175.88         | 0.04 | 2.21             | 0.00            |



## Appendix A: Construction Emissions from Proposed Project

TABLE A.2

## CONSTRUCTION ACTIVITIES AND DAILY EMISSIONS

| Phase  | Days     | Equipment                    | Quantity | HP  | Days | Total hours | Load factor | Emissions (lb/day) |       |                 |                 |                 |      |                  |                 |
|--|----------|------------------------------|----------|-----|------|-------------|-------------|--------------------|-------|-----------------|-----------------|-----------------|------|------------------|-----------------|
|  |          |                              |          |     |      |             |             | ROG                | CO    | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM   | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 2: Backfill/ Compacting/ Paving |          |                              |          |     |      |             |             |                    |       |                 |                 |                 |      |                  |                 |
| 2a: Equipment compound (pads)                | 49 to 63 | Skid steer loader (1)2       | 1        | 75  | 15   | 120         | 0.55        | 0.27               | 1.24  | 1.82            | 187.98          | 0.00            | 0.16 | 0.00             | 0.02            |
|  |          | Backhoe (1)3                 | 1        | 110 | 15   | 120         | 0.55        | 0.40               | 1.59  | 2.49            | 227.40          | 0.00            | 0.23 | 0.00             | 0.04            |
|  |          | Saw cutter (1)4              | 1        | 55  | 15   | 120         | 0.73        | 0.78               | 2.90  | 5.02            | 432.65          | 0.01            | 0.42 | 0.00             | 0.07            |
|  |          | Dump truck (1)5              | 1        | 350 | 15   | 120         | 0.57        | 1.14               | 3.44  | 10.56           | 1240.73         | 0.01            | 0.40 | 0.00             | 0.10            |
|  |          | Welding generator (1)9       | 1        | 50  | 15   | 120         | 0.62        | 0.51               | 1.45  | 1.38            | 138.70          | 0.00            | 0.13 | 0.00             | 0.05            |
|  |          | TOTALS                       |          |     |      |             |             |                    | 3.10  | 10.62           | 21.27           | 2227.46         | 0.02 | 1.33             | 0.00            |
| 2b: Conduit (trench backfill/restore)        | 64 to 78 | Skid steer loader (1)2       | 1        | 75  | 15   | 120         | 0.55        | 0.27               | 1.24  | 1.82            | 187.98          | 0.00            | 0.16 | 0.00             | 0.02            |
|  |          | Backhoe (1)3                 | 1        | 110 | 15   | 120         | 0.55        | 0.40               | 1.59  | 2.49            | 227.40          | 0.00            | 0.23 | 0.00             | 0.04            |
|  |          | Dump truck (1)5              | 1        | 350 | 15   | 120         | 0.57        | 1.14               | 3.44  | 10.56           | 1240.73         | 0.01            | 0.40 | 0.00             | 0.10            |
|  |          | Air compressor (1)6          | 1        | 60  | 15   | 120         | 0.62        | 0.65               | 2.69  | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|  |          | Wheel loader (1)7            | 1        | 150 | 15   | 120         | 0.55        | 0.53               | 2.59  | 4.24            | 445.70          | 0.01            | 0.25 | 0.00             | 0.05            |
|  |          | Concrete and A.C. trucks(1)5 | 1        | 350 | 15   | 120         | 0.57        | 1.14               | 3.44  | 10.56           | 1240.73         | 0.01            | 0.40 | 0.00             | 0.10            |
|  |          | Vibratory compactor (1)6     | 1        | 83  | 15   | 120         | 0.62        | 0.65               | 2.69  | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|  |          | Welding generator (1)9       | 1        | 50  | 15   | 120         | 0.62        | 0.51               | 1.45  | 1.38            | 138.70          | 0.00            | 0.13 | 0.00             | 0.05            |
| TOTALS                                       |          |                              |          |     |      |             | 5.29        | 19.11              | 39.63 | 4282.64         | 0.05            | 2.29            | 0.00 | 0.48             |                 |
| 2c: Ground switch                            | 79 to 88 | Skid steer loader (1)2       | 1        | 75  | 10   | 80          | 0.55        | 0.27               | 1.24  | 1.82            | 187.98          | 0.00            | 0.16 | 0.00             | 0.02            |
|  |          | Backhoe (1)3                 | 1        | 110 | 10   | 160         | 0.55        | 0.40               | 1.59  | 2.49            | 227.40          | 0.00            | 0.23 | 0.00             | 0.04            |
|  |          | Dump truck (2)5              | 2        | 350 | 10   | 80          | 0.57        | 2.27               | 6.87  | 21.13           | 2481.46         | 0.02            | 0.79 | 0.00             | 0.20            |
|  |          | Air compressor (1)6          | 1        | 60  | 10   | 80          | 0.62        | 0.65               | 2.69  | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|  |          | Wheel loader (1)7            | 1        | 150 | 10   | 80          | 0.55        | 0.53               | 2.59  | 4.24            | 445.70          | 0.01            | 0.25 | 0.00             | 0.05            |
|  |          | Concrete and A.C. trucks(1)5 | 1        | 350 | 10   | 80          | 0.57        | 1.14               | 3.44  | 10.56           | 1240.73         | 0.01            | 0.40 | 0.00             | 0.10            |
|  |          | Vibratory compactor (1)6     | 1        | 83  | 10   | 80          | 0.62        | 0.65               | 2.69  | 4.29            | 400.70          | 0.00            | 0.37 | 0.00             | 0.06            |
|  |          | Welding generator (1)9       | 1        | 50  | 10   | 80          | 0.62        | 0.51               | 1.45  | 1.38            | 138.70          | 0.00            | 0.13 | 0.00             | 0.05            |
| TOTALS                                       |          |                              |          |     |      |             | 6.43        | 22.55              | 50.19 | 5523.37         | 0.06            | 2.69            | 0.00 | 0.58             |                 |

## Appendix A: Construction Emissions from Proposed Project

TABLE A.2

## CONSTRUCTION ACTIVITIES AND DAILY EMISSIONS

| Phase  | Days          | Equipment                                   | Quantity | HP  | Days | Total hours | Load factor | Emissions (lb/day) |              |                 |                 |                 |             |                  |                 |
|--|---------------|---|----------|-----|------|-------------|-------------|--------------------|--------------|-----------------|-----------------|-----------------|-------------|------------------|-----------------|
|  |               |   |          |     |      |             |             | ROG                | CO           | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM          | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 3:<br>Equipment Delivery<br>and Installation<br>(SDG&E Primary<br>and Cochran<br>Secondary) | 89 to<br>108  | Tractor trailer (1) <sup>1</sup>            | 1        | 350 | 20   | 160         |             |                    |              |                 |                 |                 |             |                  |                 |
|  |               | Crane (1) <sup>10</sup>                     | 1        | 216 | 20   | 160         | 0.43        | 0.43               | 1.19         | 4.25            | 385.48          | 0.00            | 0.16        | 0.00             | 0.04            |
|  |               | Welding generator (1) <sup>9</sup>          | 1        | 50  | 20   | 160         | 0.62        | 0.51               | 1.45         | 1.38            | 138.70          | 0.00            | 0.13        | 0.00             | 0.05            |
|  |               | <b>TOTALS</b>                               |          |     |      |             |             |                    | <b>0.94</b>  | <b>2.64</b>     | <b>5.63</b>     | <b>524.18</b>   | <b>0.01</b> | <b>0.29</b>      | <b>0.00</b>     |
| Construction 4: SDG&E Cables/trench construction   |               |   |          |     |      |             |             |                    |              |                 |                 |                 |             |                  |                 |
| <b>4a: Conduit<br/>trenching</b>   | 89 to<br>128  | Skid steer loader (1) <sup>2</sup>          | 1        | 75  | 40   | 320         | 0.55        | 0.27               | 1.24         | 1.82            | 187.98          | 0.00            | 0.16        | 0.00             | 0.02            |
|  |               | Backhoe (1) <sup>3</sup>                    | 1        | 110 | 40   | 320         | 0.55        | 0.40               | 1.59         | 2.49            | 227.40          | 0.00            | 0.23        | 0.00             | 0.04            |
|  |               | Saw cutter (1) <sup>4</sup>                 | 1        | 55  | 40   | 320         | 0.73        | 0.78               | 2.90         | 5.02            | 432.65          | 0.01            | 0.42        | 0.00             | 0.07            |
|  |               | Dump truck (2) <sup>5</sup>                 | 2        | 350 | 40   | 640         | 0.57        | 2.27               | 6.87         | 21.13           | 2481.46         | 0.02            | 0.79        | 0.00             | 0.20            |
|  |               | Air compressor (1) <sup>6</sup>             | 1        | 60  | 40   | 320         | 0.62        | 0.65               | 2.69         | 4.29            | 400.70          | 0.00            | 0.37        | 0.00             | 0.06            |
|  |               | Wheel loader (1) <sup>7</sup>               | 1        | 150 | 40   | 320         | 0.55        | 0.53               | 2.59         | 4.24            | 445.70          | 0.01            | 0.25        | 0.00             | 0.05            |
|  |               | <b>TOTALS</b>                               |          |     |      |             |             |                    | <b>4.91</b>  | <b>17.88</b>    | <b>38.98</b>    | <b>4175.88</b>  | <b>0.04</b> | <b>2.21</b>      | <b>0.00</b>     |
| <b>4b: Conduit<br/>(trench<br/>backfill/restore)</b>   | 109 to<br>128 | Skid steer loader (1) <sup>2</sup>          | 1        | 75  | 20   | 160         | 0.55        | 0.27               | 1.24         | 1.82            | 187.98          | 0.00            | 0.16        | 0.00             | 0.02            |
|  |               | Backhoe (1) <sup>3</sup>                    | 1        | 110 | 20   | 160         | 0.55        | 0.40               | 1.59         | 2.49            | 227.40          | 0.00            | 0.23        | 0.00             | 0.04            |
|  |               | Dump truck (2) <sup>5</sup>                 | 2        | 350 | 20   | 320         | 0.57        | 1.14               | 3.44         | 10.56           | 1240.73         | 0.01            | 0.40        | 0.00             | 0.10            |
|  |               | Air compressor (1) <sup>6</sup>             | 1        | 60  | 20   | 160         | 0.62        | 0.65               | 2.69         | 4.29            | 400.70          | 0.00            | 0.37        | 0.00             | 0.06            |
|  |               | Wheel loader (1) <sup>7</sup>               | 1        | 150 | 20   | 160         | 0.55        | 0.53               | 2.59         | 4.24            | 445.70          | 0.01            | 0.25        | 0.00             | 0.05            |
|  |               | Concrete and A.C.<br>trucks(1) <sup>5</sup> | 1        | 350 | 20   | 160         | 0.57        | 1.14               | 3.44         | 10.56           | 1240.73         | 0.01            | 0.40        | 0.00             | 0.10            |
|  |               | Vibratory compactor (1) <sup>8</sup>        | 1        | 83  | 20   | 160         | 0.62        | 0.65               | 2.69         | 4.29            | 400.70          | 0.00            | 0.37        | 0.00             | 0.06            |
|  |               | Welding generator (1) <sup>9</sup>          | 1        | 50  | 20   | 160         | 0.62        | 0.51               | 1.45         | 1.38            | 138.70          | 0.00            | 0.13        | 0.00             | 0.05            |
| <b>TOTALS</b>  |               |   |          |     |      |             | <b>5.29</b> | <b>19.11</b>       | <b>39.63</b> | <b>4282.64</b>  | <b>0.05</b>     | <b>2.29</b>     | <b>0.00</b> | <b>0.48</b>      |                 |

<sup>1</sup> Tractor trailer, diesel, 350 hp.<sup>2</sup> Skid Steer Loaders, diesel, 50-120 hp.<sup>3</sup> Tractors/loaders/backhoes, diesel, 50-120 hp.<sup>4</sup> Concrete/Industrial Saws, diesel, 50-120 hp.<sup>5</sup> Off-Highway Trucks, 250-500 hp.<sup>6</sup> Other Construction Equipment, diesel, 50-120 hp.<sup>7</sup> Tractors/Loaders/Backhoes, diesel, 120-175 hp.<sup>8</sup> Other Construction Equipment, diesel, 175-500 hp.<sup>9</sup> Other Construction Equipment, diesel, 25-50 hp.<sup>10</sup> Crane, diesel, 175-250 hp.

## Appendix A: Construction Emissions from Proposed Project

TABLE A.3

## FUGITIVE DUST EMISSION CALCULATIONS

| Phase  | Days | Soil volume (yd <sup>3</sup> ) | Soil volume (m <sup>3</sup> ) | Trench depth <sup>1</sup> (m) | Disturbed area (m <sup>2</sup> ) | Fugitive EF <sup>2</sup> (lb/acre) | Fugitive EF (lb/m <sup>2</sup> ) | Total fugitive PM (lb) | Fugitive PM (lb/day) |
|--|------|--------------------------------|-------------------------------|-------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------|----------------------|
| 1a: Equipment compound <sup>3</sup>  | 20   | --                             | --                            | --                            | 323.75                           | 20                                 | 0.0049                           | 1.60                   | 0.08                 |
| 1b: Conduit trenching <sup>4</sup>   | 20   | 300                            | 229                           | 0.6                           | 381.87                           | 20                                 | 0.0049                           | 1.89                   | 0.09                 |
| 1c: Ground switch/jib  | 8    | --                             | --                            | --                            | 323.75                           | 20                                 | 0.0049                           | 1.60                   | 0.20                 |
| 2a: Equipment compound (pads)  | 15   | 300                            | 229                           | --                            | 323.75                           | 20                                 | 0.0049                           | 1.60                   | 0.11                 |
| 2b: Conduit (trench backfill/restore) <sup>4</sup>                           | 15   | 300                            | 229                           | 0.6                           | 381.87                           | 20                                 | 0.0049                           | 1.89                   | 0.13                 |
| 2c: Ground switch  | 10   | --                             | --                            | --                            | 323.75                           | 20                                 | 0.0049                           | 1.60                   | 0.16                 |
| 3: Equipment Delivery and Installation (SDG&E Primary and Cochran Secondary) | 20   | --                             | --                            | --                            | --                               | --                                 | 0.0000                           | 0.00                   | 0.00                 |
| 4a: Conduit trenching <sup>5,6</sup>   | 40   | 1125                           | 859                           | 0.6                           | 1432.02                          | 20                                 | 0.0049                           | 7.08                   | 0.18                 |
| 4b: Conduit (trench backfill/restore) <sup>5,6</sup>                         | 20   | 1125                           | 859                           | 0.6                           | 1432.02                          | 20                                 | 0.0049                           | 7.08                   | 0.35                 |

1 The trench depth is assumed to be approximately 0.6 meter, or 2 feet.

2. The emission factor is obtained from the URBEMIS Manual Appendix, page A-6 (ARB value of 20 lbs/acre-day). To calculate the fugitive dust emissions associated with grading during the phases, the URBEMIS results were ratioed by the actual area being disturbed. Each construction phase generating fugitive dust will result in emissions of spread evenly over the total number of days for each phase. The total emissions are calculated assuming the entire area is disturbed on a given day, and the proposed Project emissions are calculated by dividing the total emissions by the number of days.

3 Soil disturbance activities for equipment pads. The POSD stated that the disturbed area is assumed to be 0.08 acre, or 323.75 m<sup>2</sup>.

4 Trenching for conduits running from B Street to Broadway.

5 Trenching for conduits running from Station B Substation to proposed Project site.

6 The soil volume for Construction 5a and 5b was calculated by assuming the same ratio of volume to distance as that known for Construction 1b and 3b. Construction 1b and 3b disturb 300 cubic yards of soil over a distance of 0.12 miles. The trenching for 5a and 5b occurs over approximately 0.45 miles. Applying the same ratio, the disturbed soil is  $[0.45 \times (300/0.12)]$ .

## Appendix A: Construction Emissions from Proposed Project

TABLE A.4

## SUMMARY CONSTRUCTION EMISSIONS

| Activity   | Days       | Number of days | Emissions (lb/day) |       |                 |                 |                 |      |                  |                 |
|--|------------|----------------|--------------------|-------|-----------------|-----------------|-----------------|------|------------------|-----------------|
|  |            |                | ROG                | CO    | NO <sub>x</sub> | CO <sub>2</sub> | SO <sub>x</sub> | PM   | N <sub>2</sub> O | CH <sub>4</sub> |
| Construction 1: Demo/Excavation  |            |                |                    |       |                 |                 |                 |      |                  |                 |
| <i>1a: Equipment compound</i>  | 1 to 20    | 20             | 4.91               | 17.88 | 38.98           | 4175.88         | 0.04            | 2.74 | 0.00             | 0.44            |
| <i>1b: Conduit trenching</i>   | 21 to 40   | 20             | 4.91               | 17.88 | 38.98           | 4175.88         | 0.04            | 2.53 | 0.00             | 0.44            |
| <i>1c: Ground switch/jib</i>   | 41 to 48   | 8              | 4.91               | 17.88 | 38.98           | 4175.88         | 0.04            | 2.61 | 0.00             | 0.44            |
| Construction 2: Backfill/Compacting/Paving   |            |                |                    |       |                 |                 |                 |      |                  |                 |
| <i>2a: Equipment compound (pads)</i>   | 49 to 63   | 15             | 3.10               | 10.62 | 21.27           | 2227.46         | 0.02            | 1.86 | 0.00             | 0.28            |
| <i>2b: Conduit (trench backfill/restore)</i>   | 64 to 78   | 15             | 5.29               | 19.11 | 39.63           | 4282.64         | 0.05            | 2.60 | 0.00             | 0.48            |
| <i>2c: Ground switch</i>   | 79 to 88   | 10             | 6.43               | 22.55 | 50.19           | 5523.37         | 0.06            | 3.09 | 0.00             | 0.58            |
| Construction 3: Equipment Delivery and Installation (SDG&E Primary and Cochran Secondary) <sup>1</sup> | 89 to 108  | 20             | 0.94               | 2.64  | 5.63            | 524.18          | 0.01            | 0.29 | 0.00             | 0.08            |
| Construction 4: SDG&E Cables/trench construction   |            |                |                    |       |                 |                 |                 |      |                  |                 |
| <i>4a: Conduit trenching<sup>1</sup></i>   | 89 to 128  | 40             | 4.91               | 17.88 | 38.98           | 4175.88         | 0.04            | 3.39 | 0.00             | 0.44            |
| <i>4b: : Conduit (trench backfill/restore)<sup>1</sup></i>   | 109 to 128 | 20             | 5.29               | 19.11 | 39.63           | 4282.64         | 0.05            | 3.47 | 0.00             | 0.48            |
| Concurrent Phases <sup>1</sup>   |            |                |                    |       |                 |                 |                 |      |                  |                 |
| <i>Concurrent Phases 3 and 4a<sup>1</sup></i>  | 89 to 108  | 20             | 5.85               | 20.52 | 44.61           | 4700.07         | 0.05            | 2.68 | 0.00             | 0.53            |
| <i>Concurrent Phases 4a and 4b<sup>1</sup></i>   | 109 to 128 | 20             | 10.20              | 36.99 | 78.61           | 8458.51         | 0.09            | 5.03 | 0.00             | 0.92            |

<sup>1</sup> Phases 3 and 4a overlap for twenty days (Days 89 to 108) and Phases 4a and 4b overlap for twenty days (Days 109 to 128). Maximum daily emissions are these days are assumed to be the sum of each individual phase.

**APPENDIX B**

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**OPERATIONAL EMISSIONS FROM PROPOSED PROJECT**

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OPERATIONAL EMISSIONS FROM PROPOSED PROJECT:  
COMBUSTION AND INDIRECT EMISSIONS FROM ELECTRICITY**

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## APPENDIX B

### OPERATIONAL EMISSIONS FROM PROPOSED PROJECT

#### Introduction

This Appendix details the emission factors and calculation methods used to calculate the operational emissions from the proposed Project. The operational emissions for the Baseline year are due to the combustion of Marine Diesel Oil (MDO) in the auxiliary engines during berthing. For the two phases of the Project, the operational emissions are due to combustion of MDO in the auxiliary engines as the ships connects and disconnects from shore power while at berth and due to the indirect emissions from electricity usage by using shore power during the remainder of time at berth. First, combustion emissions from the auxiliary engines are discussed. Second, indirect emissions from electricity usage are discussed. Finally, emissions from each phase during the proposed project implementation are defined.

Table B.1 below summarizes information for each ship, such as the duration of time each ship spends at berth, the total amount of power required while at berth whether from the auxiliary engines or from shore power, and the potential amount of shore power that could be utilized while at berth.

**TABLE B.1**

**SUMMARY OF SHIP INFORMATION**

| <b>Vessel Name</b>       | <b>Berthing Duration<sup>1</sup><br/>(hrs)</b> | <b>Time for Shore Power<sup>2</sup><br/>(hrs)</b> | <b>Avg Auxiliary Total Power<sup>3</sup><br/>(kW)</b> | <b>Total Required Power per Visit<sup>4</sup><br/>(kW-hr)</b> | <b>Potential Shore Power per Visit<br/>(kW-hr)</b> | <b>Potential Required Auxiliary Power per visit, with Shore Power<br/>(kW-hr)</b> |
|--------------------------|--|---|---|---|--|---|
| Dawn Princess            | 11   | 9.0   | 46,670  | 82,139  | 67,205   | 14,934  |
| Oosterdam <sup>5,6</sup> | 11   | 9.0   | 46,670  | 82,139  | 67,205   | 14,934  |
| Westerdam <sup>6</sup>   | 11   | 9.0   | 46,670  | 82,139  | 67,205   | 14,934  |

<sup>1</sup> Berthing duration was provided by POSD for the Dawn Princess and Oosterdam. A duration of 11 hours was assumed for the Westerdam.

<sup>2</sup> Vessels were assumed to require one hour for connecting and one hour for disconnecting to shore power while at berth. The time available for shore power is thus two hours less than the total berthing duration.

<sup>3</sup> The total auxiliary power for cruise ships is assumed to be 46,670 kW (CARB, 2005).

<sup>4</sup> The total required power per visit is based on the average auxiliary power, the load factor for hotelling cruise ships, and the berthing duration. The load factor for hotelling cruise ships (0.16) is obtained from CARB (2005).

<sup>5</sup> Vehicle information obtained from Yorke (2007) - "Port of San Diego: Cold Ironing Study May 2007."

<sup>6</sup> Vehicle information obtained from the Carl Moyer Application (April 2008).

## Appendix B: Operational Emissions from Proposed Project

Table B.2 below summarizes the emission factors used to calculate the emissions from the combustion of MDO and indirect emissions from electricity usage.

**TABLE B.2**

**SUMMARY OF EMISSION FACTORS**

| Engine                                  | Emission Factors (g/kW-h) |      |      |                  |                   |      |                 |                 |                 |
|---|---------------------------|------|------|------------------|-------------------|------|-----------------|-----------------|-----------------|
|   | NO <sub>x</sub>           | CO   | HC   | PM <sub>10</sub> | PM <sub>2.5</sub> | DPM  | SO <sub>2</sub> | CO <sub>2</sub> | CH <sub>4</sub> |
| Marine Distillate (0.5% S) <sup>1</sup> | 13.9                      | 1.1  | 0.52 | 0.38             | 0.35              | 0.38 | 2.10            | 690             | 0.09            |
| Grid <sup>2</sup>                       | 0.02                      | 0.08 | 0.05 | 0.11             | 0.11              | 0    | 0.25            | 328.45          | 0.01            |

<sup>1</sup> Emission factors obtained from *Emissions Estimation Methodology for Ocean Going Vessels*, California Air Resources Board, May 2008, <http://www.arb.ca.gov/regact/2008/fuelogv08/appdfuel.pdf>. The diesel particulate matter (DPM) emission factor was assumed to equal the PM<sub>10</sub> emission factor.

<sup>2</sup> PM and NO<sub>x</sub> emission factors obtained from *Emissions Estimation Methodology for Ocean Going Vessels*, California Air Resources Board, May 2008, <http://www.arb.ca.gov/regact/2008/fuelogv08/appdfuel.pdf>. HC and CO emission factors from Table 6 of CARB, *Air Pollution Emission Impacts Associated with Economic Market Potential of Distributed Generation in California*, June 2000. SO<sub>2</sub>, CH<sub>4</sub> and CO<sub>2</sub> emission factors obtained from EPA, Emissions & Generation Resource Integrated Database (eGRID) CAMX section: [www.epa.gov/cleanenergy/energy-resources/egrid/index.html](http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html).

### Combustion Emissions

Emissions of NO<sub>x</sub>, VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, CO<sub>2</sub>, CH<sub>4</sub>, and diesel particulate matter (DPM) were calculated for each ship that is capable of using shore power (i.e., Dawn Princess, Oosterdam, and Westerdam). Combustion emissions were calculated using the emissions methodology outlined in “Emissions Estimation Methodology for Ocean Going Vessels” (CARB, 2008).

Operational combustion emissions were based on the total amount of energy the ships would obtain from their auxiliary engines. The total amount of energy was based on the average auxiliary power for a cruise ship, the load factor for a hotelling ship, and the amount of time spent in berth.

$$E_{combustion} = En_{required} \cdot EF \cdot \frac{1 \text{ ton}}{907000 \text{ g}}$$

Where  $E_{combustion}$  is the emissions of a given pollutant per visit [tons/visit];  
 $En_{required}$  is the energy the ship requires per visit [kW-hr/visit]; and  
 $EF$  is the emission factor for a given pollutant [g/kW-hr].

$$En_{required} = T_{berthing} \cdot P_{auxiliary} \cdot F_{load}$$

Where  $T_{berthing}$  is the time the ship is in berth [hr];  
 $P_{auxiliary}$  is the average auxiliary total power [kW]; and  
 $F_{load}$  is the load factor [unitless].



## Appendix B: Operational Emissions from Proposed Project

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For the baseline year emissions, ENVIRON has assumed that none of the ships use shore power while at berth; therefore, the vessels use their auxiliary engines the entire time the ship is in berth, and emissions are only due to the auxiliary engine emissions. In calculating the Project Phase 1 and Phase 2 combustion emissions, ENVIRON assumed that each ship would require one hour for connecting and one hour for disconnecting from shore power while at berth, during which time the ship would need to use its auxiliary engine. Please note that connections and disconnections are generally made in a shorter time period. Thus, the time frame is a conservative approach, as assuming the maximum connection and disconnection time periods minimizes the potential emission reductions.

### *Indirect Emissions from Electricity Usage*

During the two phases of the proposed Project, emissions from a vessel result from (1) direct emissions from combustion of MDO burned in the auxiliary engines as the ship enters and leaves the berth and (2) indirect emissions from the electricity used to generate the shore power previously received from the auxiliary engines. As stated in the Combustion Emissions section above, each ship is assumed to require one hour to connect and one hour to disconnect from shore power; therefore, the time available to use shore power is two hours less than the total time the ship is in berth. The time available to use shore power was used to calculate the amount of energy needed from shore power, based on the average auxiliary power and load factor for hotelling cruise ships. The same equations used to calculate emissions from combustion are used to calculate indirect emissions from electricity.

The emission factors used to calculate indirect emissions from electricity were obtained from CARB (2008) and EPA's eGRID, as described above in Table B.2. The eGRID database allows the user to choose emission factors based on state, eGRID subregion, and specific power plant, among other options. The selection determines the emission factor based on the assumptions inherent to the model of the generation resource mix. The generation resource mix represents which resources (e.g., coal, natural gas, etc.) are used to generate electricity in a given area. For this analysis, the eGRID subregion CAMX (i.e., California-Mexico) was chosen. The generation resource mix for CAMX is approximately 42% gas, 18% hydroelectric, 16% nuclear, 12% coal, 5% geothermal, 3% biomass, and 1% oil, with the remaining 3% coming from solar, other fossil fuel, and unknown or purchased fuel.

### *Proposed Project Phase Emissions*

Implementation of the proposed Project is separated into two phases, each of which has combustion emissions and indirect emissions from electricity usage. For each phase, emissions were analyzed based on the number of ships that could use shore power at any one time. During Phase 1, which will occur in 2010, one ship out of a maximum of three potential ships in berth will be able to operate on shore power. During Phase 2, which will occur in 2017, two ships out of a maximum of three potential ships in berth will be able to operate on shore power. A calendar detailing the visits made by each cruise ship is available from 2008 through 2010. However, the schedule in and beyond

**Appendix B: Operational Emissions from Proposed Project**

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2009 is tentative, and, therefore, the exact number of ships that will visit in 2010 and 2017 is not known. As a result, this analysis uses 2008 data (i.e., the last year that complete information was available) to determine CEQA base year emissions from the three shore-power capable ships. Based on the Port calendar, none of the ships berth at the Port at the same time on any single day. Therefore, the annual and daily emissions for Phases 1 and 2 are the same; each ship will be able to utilize shore power while at berth. Below is a summary of the assumptions made for each phase as it relates to calculation of the operational emissions.

- **Baseline:**
  - Number of Port calls during 2008 (representative year of ship calls)
  - None of the ships used shore power.
  - One visit per day per ship (daily emissions only)
- **Phase 1:**
  - Number of Port calls during 2008
  - One ship out of a maximum potential of three ships at berth uses shore power if multiple shore power capable ships are expected to be at berth at the same time. However, none of the ships in the proposed Project were at berth at the same time during any single day during 2008.
  - One visit per day per ship (daily emissions only)
- **Phase 2:**
  - Number of Port calls during 2008
  - Two ships out of a maximum potential of three ships at berth uses shore power if multiple shore power capable ships are expected to be at berth at the same time. However, none of the ships in the proposed Project were at berth at the same time on any single day during 2008.
  - One visit per day per ship (daily emissions only)

Tables B.3 through B.7 provide a summary of the emissions associated with each of these operating scenarios on an annual and a daily basis, respectively.

## Appendix B: Operational Emissions from Proposed Project

TABLE B.3

## EMISSIONS PER VISIT BY VESSEL – NO SHORE POWER

| Vessel Name              | Total emissions per visit, no shore power (tons/visit) |             |             |                  |                   |             |                 |                 |                 | Total emissions per year, no shore power (tons/yr) |             |             |                  |                   |             |                 |                 |                 |
|--------------------------|--|-------------|-------------|------------------|-------------------|-------------|-----------------|-----------------|-----------------|--|-------------|-------------|------------------|-------------------|-------------|-----------------|-----------------|-----------------|
|                          | NO <sub>x</sub>  | CO          | HC          | PM <sub>10</sub> | PM <sub>2.5</sub> | DPM         | SO <sub>2</sub> | CH <sub>4</sub> | CO <sub>2</sub> | NO <sub>x</sub>                                    | CO          | HC          | PM <sub>10</sub> | PM <sub>2.5</sub> | DPM         | SO <sub>2</sub> | CH <sub>4</sub> | CO <sub>2</sub> |
| Dawn Princess            | 1.26   | 0.10        | 0.05        | 0.03             | 0.03              | 0.03        | 0.19            | 0.01            | 62.49           | 23.92  | 1.89        | 0.89        | 0.65             | 0.60              | 0.65        | 3.61            | 0.15            | 1,187.26        |
| Oosterdam                | 1.26   | 0.10        | 0.05        | 0.03             | 0.03              | 0.03        | 0.19            | 0.01            | 62.49           | 37.76  | 2.99        | 1.41        | 1.03             | 0.95              | 1.03        | 5.71            | 0.24            | 1,874.62        |
| Westerdam                | 1.26   | 0.10        | 0.05        | 0.03             | 0.03              | 0.03        | 0.19            | 0.01            | 62.49           | 2.52   | 0.20        | 0.09        | 0.07             | 0.06              | 0.07        | 0.38            | 0.02            | 124.97          |
| <b>Three ships total</b> | <b>3.78</b>  | <b>0.30</b> | <b>0.14</b> | <b>0.10</b>      | <b>0.10</b>       | <b>0.10</b> | <b>0.57</b>     | <b>0.02</b>     | <b>187.46</b>   | <b>64.20</b>                                       | <b>5.08</b> | <b>2.40</b> | <b>1.76</b>      | <b>1.62</b>       | <b>1.76</b> | <b>9.70</b>     | <b>0.42</b>     | <b>3,186.86</b> |

TABLE B.4

## EMISSIONS PER VISIT BY VESSEL – SHORE POWER

| Vessel Name              | Total auxiliary emissions per visit, with shore power (tons/visit) |             |             |                  |                   |             |                 |                 |                 |
|--------------------------|--|-------------|-------------|------------------|-------------------|-------------|-----------------|-----------------|-----------------|
|                          | NO <sub>x</sub>  | CO          | HC          | PM <sub>10</sub> | PM <sub>2.5</sub> | DPM         | SO <sub>2</sub> | CH <sub>4</sub> | CO <sub>2</sub> |
| Dawn Princess            | 0.23   | 0.02        | 0.01        | 0.01             | 0.01              | 0.01        | 0.03            | 0.00            | 11.36           |
| Oosterdam                | 0.23   | 0.02        | 0.01        | 0.01             | 0.01              | 0.01        | 0.03            | 0.00            | 11.36           |
| Westerdam                | 0.23   | 0.02        | 0.01        | 0.01             | 0.01              | 0.01        | 0.03            | 0.00            | 11.36           |
| <b>Three ships total</b> | <b>0.69</b>  | <b>0.05</b> | <b>0.03</b> | <b>0.02</b>      | <b>0.02</b>       | <b>0.02</b> | <b>0.10</b>     | <b>0.00</b>     | <b>34.08</b>    |
| Vessel Name              | Indirect emissions due to electricity usage (tons/visit)           |             |             |                  |                   |             |                 |                 |                 |
|                          | NO <sub>x</sub>  | CO          | HC          | PM <sub>10</sub> | PM <sub>2.5</sub> | DPM         | SO <sub>2</sub> | CH <sub>4</sub> | CO <sub>2</sub> |
| Dawn Princess            | 1.9E-03  | 5.7E-03     | 3.7E-03     | 8.2E-03          | 8.2E-03           | 0.0E+00     | 1.9E-02         | 1.0E-03         | 2.4E+01         |
| Oosterdam                | 1.9E-03  | 5.7E-03     | 3.7E-03     | 8.2E-03          | 8.2E-03           | 0.0E+00     | 1.9E-02         | 1.0E-03         | 2.4E+01         |
| Westerdam                | 1.9E-03  | 5.7E-03     | 3.7E-03     | 8.2E-03          | 8.2E-03           | 0.0E+00     | 1.9E-02         | 1.0E-03         | 2.4E+01         |
| <b>Three ships total</b> | <b>0.00</b>  | <b>0.02</b> | <b>0.01</b> | <b>0.02</b>      | <b>0.02</b>       | <b>0.00</b> | <b>0.06</b>     | <b>0.00</b>     | <b>72.99</b>    |

## Appendix B: Operational Emissions from Proposed Project

TABLE B.5

## ANNUAL EMISSIONS BY VESSEL – SHORE POWER

| Vessel Name              | Total emissions per year, with shore power (tons/yr) |             |             |                  |                   |             |                 |                 |                 |
|--------------------------|--|-------------|-------------|------------------|-------------------|-------------|-----------------|-----------------|-----------------|
|                          | NO <sub>x</sub>                                      | CO          | HC          | PM <sub>10</sub> | PM <sub>2.5</sub> | DPM         | SO <sub>2</sub> | CH <sub>4</sub> | CO <sub>2</sub> |
| Dawn Princess            | 4.38   | 0.45        | 0.23        | 0.27             | 0.26              | 0.12        | 1.01            | 0.05            | 678.17          |
| Oosterdam                | 6.91   | 0.71        | 0.37        | 0.43             | 0.42              | 0.19        | 1.60            | 0.07            | 1,070.79        |
| Westerdam                | 0.46   | 0.05        | 0.02        | 0.03             | 0.03              | 0.01        | 0.11            | 0.00            | 71.39           |
| <b>Three ships total</b> | <b>11.75</b>   | <b>1.22</b> | <b>0.63</b> | <b>0.73</b>      | <b>0.71</b>       | <b>0.32</b> | <b>2.72</b>     | <b>0.13</b>     | <b>1,820.34</b> |

TABLE B.6

## ANNUAL EMISSIONS SUMMARY TABLE

| Emissions                                      | Criteria Pollutant Emissions (tons/yr) |            |           |                  |                   |                 | GHG Emissions (tons/yr) |                 |                   |
|--|--|------------|-----------|------------------|-------------------|-----------------|-------------------------|-----------------|-------------------|
|  | NO <sub>x</sub>                        | CO         | HC        | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2eq</sub> |
| Baseline <sup>1</sup>                          | 64.20                                  | 5.08       | 2.40      | 1.76             | 1.62              | 9.70            | 3,186.86                | 0.42            | 3,197.25          |
| Project - Phase 1 <sup>2</sup>                 | 11.75                                  | 1.22       | 0.63      | 0.73             | 0.71              | 2.72            | 1,820.34                | 0.13            | 1,823.53          |
| Incremental difference<br>(Phase 1 - Baseline) | -52.45                                 | -3.87      | -1.78     | -1.02            | -0.91             | -6.98           | -1,366.51               | -0.29           | -1,373.72         |
| Project - Phase 2 <sup>3</sup>                 | 11.75                                  | 1.22       | 0.63      | 0.73             | 0.71              | 2.72            | 1,820.34                | 0.13            | 1,823.53          |
| Incremental difference<br>(Phase 2 - Baseline) | -52.45                                 | -3.87      | -1.78     | -1.02            | -0.91             | -6.98           | -1,366.51               | -0.29           | -1,373.72         |
| <b>Significance Threshold</b>                  | <b>40</b>                              | <b>100</b> | <b>14</b> | <b>15</b>        | <b>10</b>         | <b>40</b>       | --                      | --              | --                |
| <b>Significant?</b>                            | <b>No</b>                              | <b>No</b>  | <b>No</b> | <b>No</b>        | <b>No</b>         | <b>No</b>       | --                      | --              | --                |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 1 will occur in 2010 and will allow 1 out of a maximum potential of 3 ships at berth simultaneously to operate on shore power. Phases 1 emissions are based on 2008 ship call information with shore power available at one berth at any given time.

<sup>3</sup> Phase 2 will occur in 2017 and will allow 2 out of a maximum potential of 3 ships in berth simultaneously to operate on shore power. Since the ships are not at berth at the same time on a single day in 2008 (and are not project to be in 2009 or 2010), Phase 1 and Phase 2 emissions are the same. Phase 2 emissions would be smaller if two ships capable of using shore power called on the same day(s).

## Appendix B: Operational Emissions from Proposed Project

TABLE B.7

## DAILY EMISSIONS SUMMARY TABLE

| Emissions                                      | Criteria Pollutant Emissions (lbs/day) |            |           |                  |                   |                 | GHG Emissions (lbs/day) |                 |                    |
|--|--|------------|-----------|------------------|-------------------|-----------------|-------------------------|-----------------|--------------------|
|  | NO <sub>x</sub>                        | CO         | HC        | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> eq |
| Baseline <sup>1</sup>                          | 2,517.61                               | 199.24     | 94.18     | 68.83            | 63.39             | 380.36          | 124,974.75              | 16.30           | 125,382.27         |
| Project - Phase 1 <sup>2</sup>                 | 460.71                                 | 47.65      | 24.52     | 28.81            | 27.82             | 106.72          | 71,385.95               | 5.00            | 71,510.85          |
| Incremental difference<br>(Phase 1 - Baseline) | -2,056.90                              | -151.59    | -69.67    | -40.02           | -35.57            | -273.64         | -53,588.80              | -11.30          | -53,871.42         |
| Project - Phase 2 <sup>3</sup>                 | 460.71                                 | 47.65      | 24.52     | 28.81            | 27.82             | 106.72          | 71,385.95               | 0.01            | 71,386.28          |
| Incremental difference<br>(Phase 2 - Baseline) | -2,056.90                              | -151.59    | -69.67    | -40.02           | -35.57            | -273.64         | -53,588.80              | -16.29          | -53,996.00         |
| <b>Significance Threshold</b>                  | <b>250</b>                             | <b>550</b> | <b>75</b> | <b>100</b>       | <b>55</b>         | <b>250</b>      | --                      | --              | --                 |
| <b>Significant?</b>                            | <b>No</b>                              | <b>No</b>  | <b>No</b> | <b>No</b>        | <b>No</b>         | <b>No</b>       | --                      | --              | --                 |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 1 will occur in 2010 and will allow 1 out of a maximum potential of 3 ships at berth simultaneously to operate on shore power. Phases 1 emissions are based on 2008 ship call information with shore power available at one berth at any given time.

<sup>3</sup> Phase 2 will occur in 2017 and will allow 2 out of a maximum potential of 3 ships in berth simultaneously to operate on shore power. Since the ships are not at berth at the same time on a single day in 2008 (and are not project to be in 2009 or 2010), Phase 1 and Phase 2 emissions are the same. Phase 2 emissions would be smaller if two ships capable of using shore power called on the same day(s).

## Appendix B: Operational Emissions from Proposed Project

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### *Analysis of Potential Daily Emissions*

In addition to the calculated annual and daily emissions, emissions were calculated assuming that all three shore-power capable ships are in berth on the same day. The assumptions used to calculate this scenario are summarized below.

- Baseline:
  - None of the ships used shore power
  - All three ships are at berth at the same time.
  - One visit per ship
- Phase 1:
  - One ship out of a maximum potential of three ships at berth uses shore power.
  - All three ships are at berth at the same time.
  - One visit per ship
- Phase 2:
  - Two ships out of a maximum potential of three ships at berth uses shore power.
  - All three ships are at berth at the same time.
  - One visit per ship

Table B.5 provides a summary of the emissions associated with the scenario above. Please note that this is a potential scenario, and does not reflect the projected schedule of ship calls.

TABLE B.8

DAILY EMISSIONS FOR THREE SHIPS SUMMARY TABLE

| Emissions                                   | Worst-case Criteria Pollutant Emissions (lbs/day) |            |           |                  |                   |                 | Worst-case GHG Emissions (lbs/day) |                 |                   |
|---|---|------------|-----------|------------------|-------------------|-----------------|------------------------------------|-----------------|-------------------|
|   | NO <sub>x</sub>                                   | CO         | HC        | PM <sub>10</sub> | PM <sub>2.5</sub> | SO <sub>2</sub> | CO <sub>2</sub>                    | CH <sub>4</sub> | CO <sub>2eq</sub> |
| Baseline (three ships) <sup>1</sup>         | 7,553   | 598        | 283       | 206              | 190               | 1,141           | 374,924                            | 49              | 376,147           |
| Phase 1 <sup>2</sup>                        | 5,496   | 446        | 213       | 166              | 155               | 867             | 321,335                            | 38              | 322,275           |
| Incremental difference (Phase - Baseline)   | -2,057  | -152       | -70       | -40              | -36               | -274            | -53,589                            | -11             | -53,871           |
| Phase 2 <sup>3</sup>                        | 3,439   | 295        | 143       | 126              | 119               | 594             | 267,747                            | 26              | 268,404           |
| Incremental difference (Phase 2 - Baseline) | -4,114  | -303       | -139      | -80              | -71               | -547            | -107,178                           | -23             | -107,743          |
| <b>Significance Threshold</b>               | <b>250</b>  | <b>550</b> | <b>75</b> | <b>100</b>       | <b>55</b>         | <b>250</b>      | --                                 | --              | --                |
| <b>Significant?</b>                         | <b>No</b>   | <b>No</b>  | <b>No</b> | <b>No</b>        | <b>No</b>         | <b>No</b>       | --                                 | --              | --                |

<sup>1</sup> Baseline emissions are based on 2008 ship calls for the three ships currently capable of using shore power (the Dawn Princess, the Oosterdam, and the Westerdam). Baseline emissions reflect that the ships did not (and could not) use shore power in 2008.

<sup>2</sup> Phase 1 occurs in 2010 and will allow one out of a maximum potential of three ships in berth to operate on shore power. Phase 1 assumes three ships in berth with one ship operating on shore power.

<sup>3</sup> Phase 2 occurs in 2017 and will allow two out of a maximum potential of three ships in berth to operate on shore power. Phase 2 assumes three ships in berth with two ships operating on shore power.

## Appendix B: Operational Emissions from Proposed Project

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### *Conservative Analysis*

In addition to the assumptions made for the purposes of the calculations, as described above, there were additional assumptions made for the overall analysis. The assumptions incorporated into the analysis of the proposed Project's operational emissions are as follows:

- The three shore-power capable ships call at port as many times in future years as in 2008 (e.g., reductions due to reduced ship calls because of economic conditions are not included);
- The three shore-power capable ships never call on the same day (based on 2008 actual ship call data and projected 2009 and 2010 ship call information); and
- Only the three ships that are currently capable of using shore power will be able to use shore power.

The first assumption is important because, in the case that the current economic downturn continues and fewer ships call in the future, there will be greater reductions. The current analysis does not account for the potential reduction in emissions due to the potential reduction in ship visits. Furthermore, the three shore-power capable ships are assumed to visit the port for a total of 51 visits based on the current schedule. In the future, the total number of visits may increase. Calculations show that emission reductions will still be achieved if the number of total vessel calls in future years increases to 89 vessel calls per year. Note that, because all of the ship parameters are identical (i.e., Tables B.1 and B.2), the increase in visits can occur with any of the three shore-power capable ships. If two shore-power capable ships do visit on the same day contrary to the second assumption, additional Phase 2 reductions (beyond Phase 1) would occur. Finally, if more ships become shore-power capable contrary to the final assumption, greater reductions would occur as ships reduce the use of auxiliary engine and associated emissions.