

**ENVIRONMENTAL CHECKLIST FORM  
CITY OF HUNTINGTON BEACH  
COMMUNITY DEVELOPMENT DEPARTMENT  
DRAFT MITIGATED NEGATIVE DECLARATION NO. 15-03**

- 1. PROJECT TITLE:** Humboldt Drive Bridge Rehabilitation over Short Channel  
(State Bridge #55C-0284)
- 2. LEAD AGENCY:** City of Huntington Beach  
2000 Main Street  
Huntington Beach, CA 92648
- Contact:** Hayden Beckman, Project Planner
- Phone:** (714) 536-5271; HBeckman@surfcity-hb.org
- 3. PROJECT LOCATION:** The project is located in the City of Huntington Beach on Humboldt Drive over Short Channel (see **Figure 1**, Regional Location Map and **Figure 2**, Project Location Map).
- 4. PROJECT PROPONENT:** City of Huntington Beach  
2000 Main Street  
Huntington Beach, CA 92648
- Contact Person:** Jonathan Claudio, P.E., Sr. Civil Engineer
- Phone:** (714) 374-5380, JClaudio@surfcity-hb.org
- 5. GENERAL PLAN DESIGNATION:** Right of Way
- 6. ZONING:** Right of Way

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## **1. PROJECT DESCRIPTION:**

### **Introduction**

The City of Huntington Beach (City), in cooperation with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) proposes to repair and rehabilitate the Humboldt Drive Bridge (project) in the City of Huntington Beach (Huntington Beach), Orange County, California. The Humboldt Drive Bridge over Short Channel (the channel) (Bridge #55C-0284) is located within the Huntington Beach Harbour, which shares an outlet with the Bolsa Chica Channel (see **Figure 1**, Regional Location Map and **Figure 2**, Project Location Map). The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge.

### **Existing Bridge**

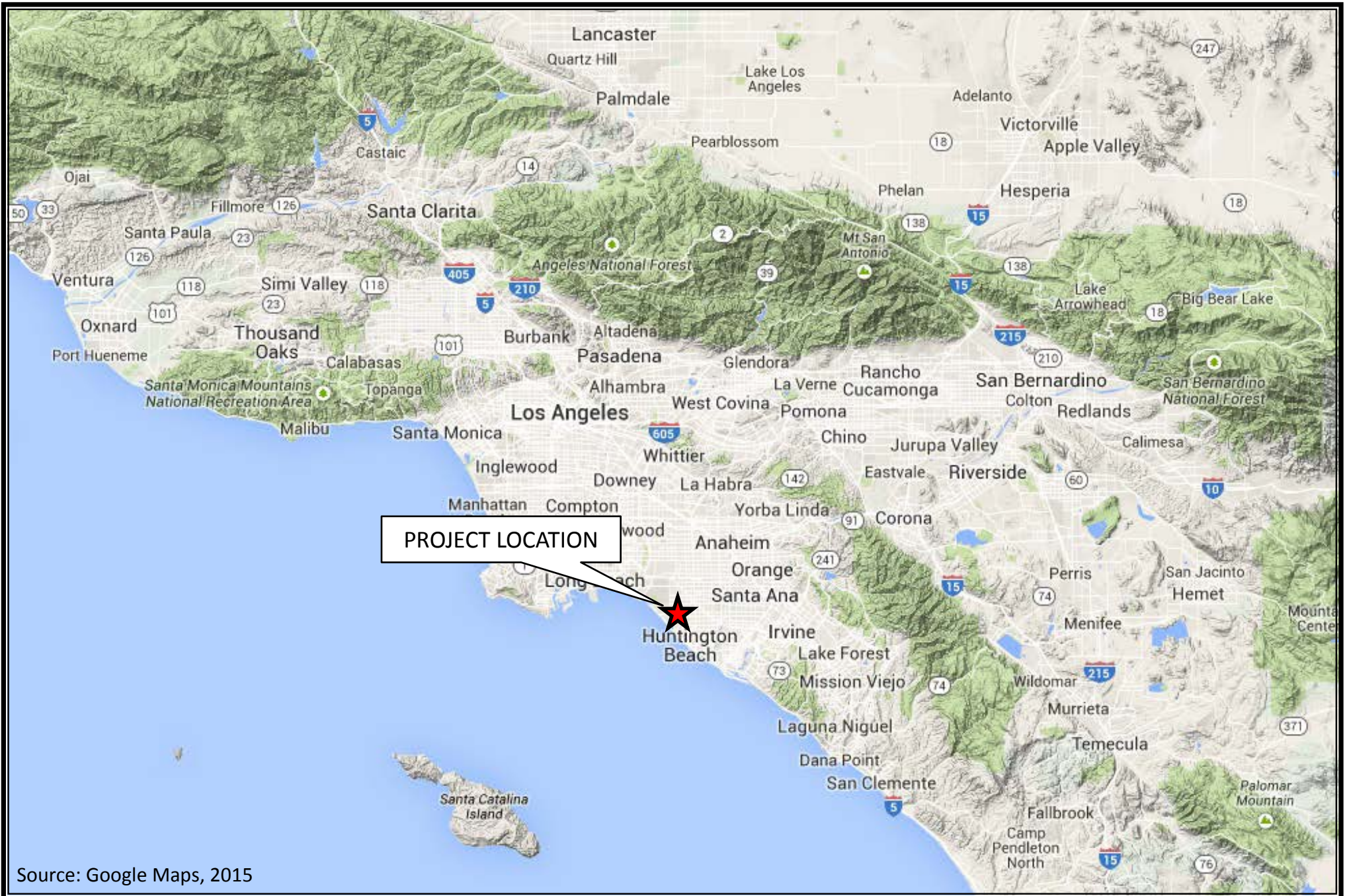
The Humboldt Drive Bridge is a multi-span steel I-girder bridge constructed in 1963. The bridge is approximately 35 feet wide and approximately 156 feet long; it measures 26 feet curb to curb, which is below the minimum roadway width required for this bridge. The bridge provides one 13-foot lane in the eastbound direction and one 13-foot lane in the westbound direction for vehicular traffic. There is a 5-foot sidewalk on the south side of the bridge and a 2-foot sidewalk on the north side of the bridge; there are no shoulders or bike lanes. The approach roadway widths are approximately 40 feet on both the east and west side of the bridge. There are utilities embedded in the existing sidewalks and suspended underneath the bridge in conduits, including high-voltage electrical lines, gas, water, sewer, telephone and cable.

The bridge was seismically retrofitted in 1994. At that time, internal shear keys were installed at the bent and abutment diaphragms and the approach slabs were replaced with anchor slabs. In a routine Bridge Inspection Report (BIR) performed by Caltrans on June 16, 2010, the bridge was given a sufficiency rating of 47.0 and was flagged as functionally obsolete (deck geometry code #3) because of narrow roadway width. The following structural deficiencies were also noted in the report and observed during a bridge inspection performed by Biggs Cardosa Associates, Inc. on November 14, 2012: a) surface rust on interior girders and bearings; b) rust and corrosion causing substantial section loss on the outside girders; c) transverse cracking in the deck, moderate in size and density, and spalls at westbound lanes of deck; d) joint seals full of dirt; e) cracking and spalls on bent caps; and f) cracks and spalling in the sidewalk and parapet (see **Figure 3a** and **Figure 3b**, Photos of Existing Bridge). The work recommendation in the BIR was to clean the joints and clean and paint the steel girders. The Humboldt Drive Bridge is the only access in and out of residential housing on Humboldt Island.

### **Proposed Project**

The project would include rehabilitation work on the bridge and widening the bridge by approximately two feet on each side (from the existing width of 35 feet to a total width of 39 feet) in order to provide the required roadway width, and provide standard sidewalks on the bridge (see **Attachment 1**, Project Plans). Rehabilitation and widening of the bridge would include a) removal and replacement of the concrete barriers, sidewalks, bridge deck; b) cleaning and painting the steel I-girders and other steel members; and c) removal and replacement of unsound concrete on the bridge piers (see **Figure 4**, Project Site Map). Working platforms would be constructed of untreated timber, installed during low tide, and suspended from the existing bridge soffit and/or pier walls. The project would be completed in two phases, as outlined below.

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Source: Google Maps, 2015

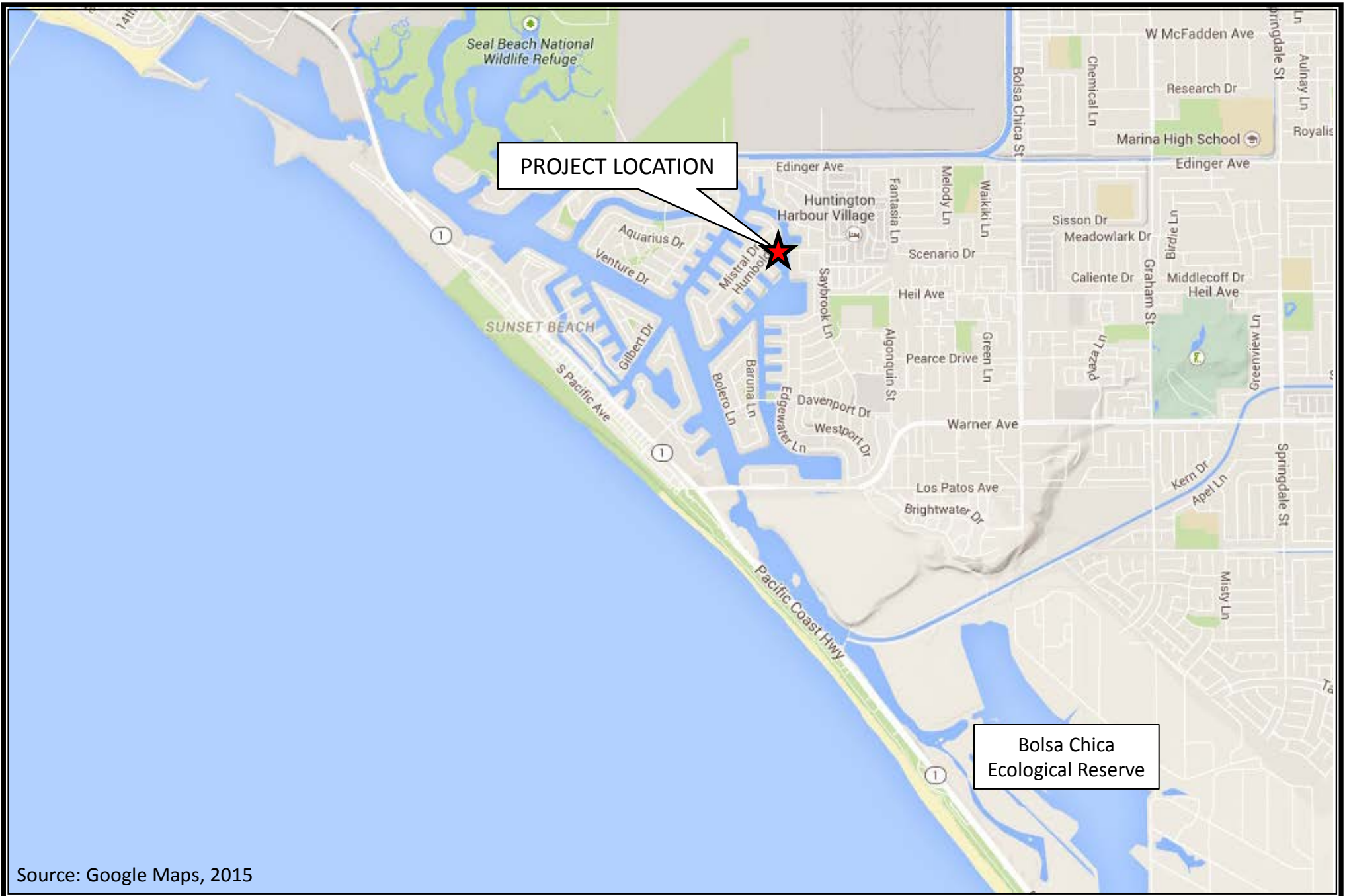


**FIGURE 1. REGIONAL LOCATION MAP**  
**Humboldt Drive Bridge over Short Channel**



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Source: Google Maps, 2015



**FIGURE 2: PROJECT LOCATION MAP**  
**Humboldt Drive Bridge over Short Channel**



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**Humboldt  
Drive  
Bridge,  
Facing East**

**Surface  
Rust**



Source: GPA Consulting, 2013



**FIGURE 3A. PHOTOS OF EXISTING BRIDGE  
Humboldt Drive Bridge over Short Channel**

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**Rust on I-girders and Bearings**



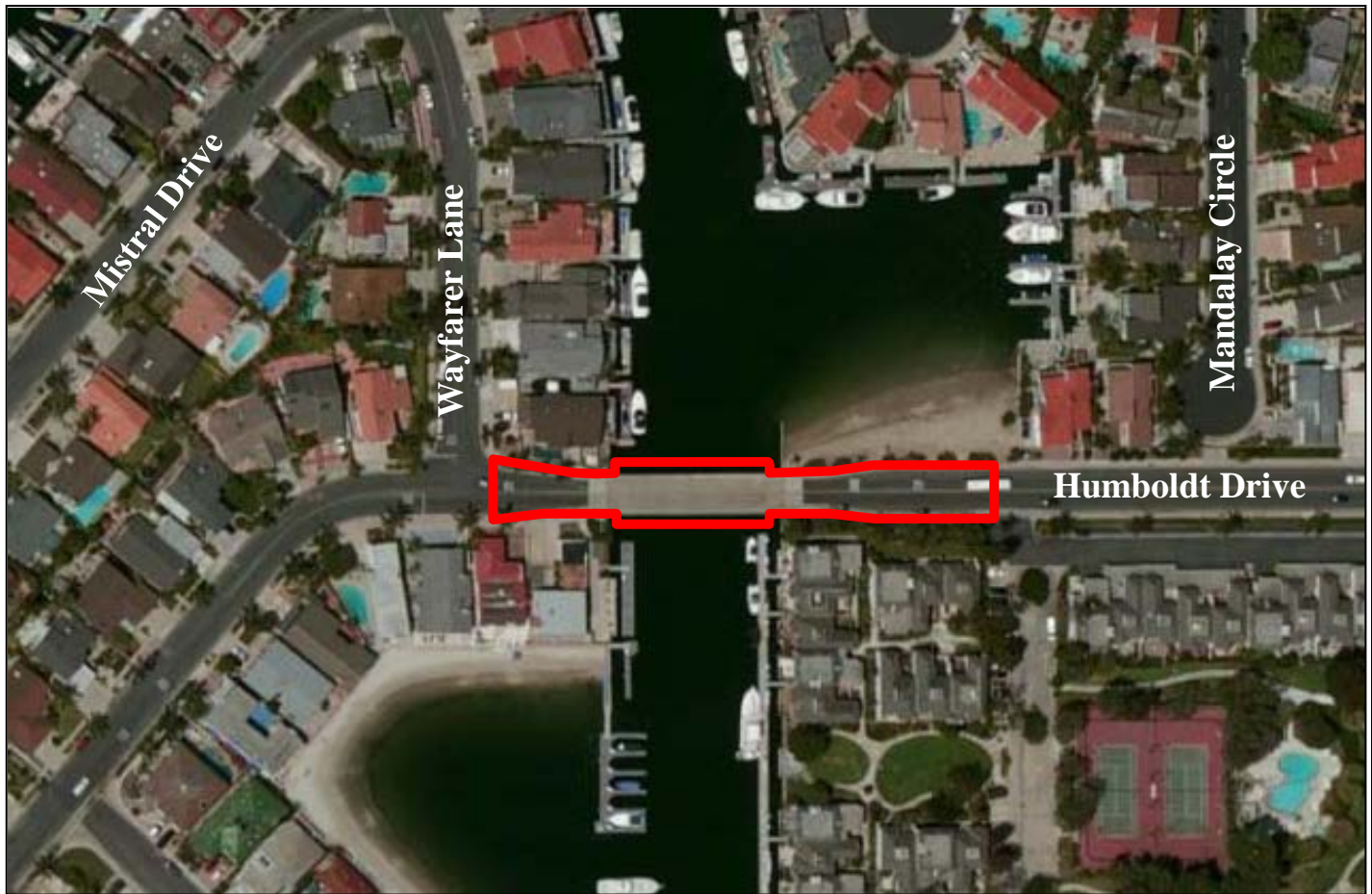
**Cracked Piers**

Source: GPA Consulting, 2013




**FIGURE 3B. PHOTOS OF EXISTING BRIDGE  
Humboldt Drive Bridge over Short Channel**

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Software: ESRI, 2012

Basemap Source: NASA, NGA, USGS. Microsoft Corp, 2008

Legend	
	Project Site



**FIGURE 4. PROJECT SITE MAP**  
**Humboldt Drive Bridge over Short Channel**



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### ***Phase 1***

Phase 1 would involve the closure of the south half of the bridge using K-rail barriers to separate vehicular traffic from work areas. The south half of the bridge deck would be removed, along with the concrete barrier and sidewalk, providing access to the steel girders and piers below.

The steel girders would be accessed from the top of the bridge, sandblasted to remove rust, and painted or replaced if badly corroded. The work area would be tented in order to contain all paint and debris while the I-girders and other steel members are being sandblasted and repaired (see **Figure 5**, Example of Tenting System). Pier repair would involve the removal of unsound concrete above the high-tide line using small jackhammers. All exposed reinforcement would be sandblasted, a bonding agent would be applied, and the piers would be patched with new concrete. All work on the piers would be performed during low tide with protective measures in place to prevent any material, equipment, and debris from falling into the channel. Once the repairs are completed, the new bridge deck, concrete barrier, and sidewalk (including the widened portion) would be placed and Phase 2 would commence.

### ***Phase 2***

Phase 2 would rehabilitate the north half of the bridge using a similar process to Phase 1. The north half of the bridge would be closed, the concrete barriers, sidewalks, and bridge deck removed, and repairs made to steel girders and piers. Once the repairs are completed, the entire bridge would be reopened.

### ***Project Construction***

Construction is anticipated to be completed within eight months. During the construction period, both directions of vehicular traffic would be directed over one-half of the bridge. This would be accomplished by installing a temporary traffic signal system to safely direct traffic over the bridge deck in a staggered manner. Traffic sensors would be installed in limited locations at the approach roadways. Pedestrian access across the bridge would be provided continually during the construction process. For safety purposes, the portion of the channel underneath the bridge may be temporarily closed to recreational and/or emergency boats or vessels during construction; however, the channel would remain accessible from adjacent waterways, and access would be restored following construction.

The following existing utilities would be temporarily relocated and/or supported during construction:

- A 4-inch Time Warner cable line;
- Three 4-inch high-voltage Southern California Edison (SCE) lines;
- Three 4-inch Verizon telephone lines;
- A 7-inch Southern California Gas (SCG) gas line;
- A 4-inch City sewer line; and
- An 8-inch City water line.

The utilities currently connected to the bridge barrier or embedded into the existing sidewalk include the 4-inch Time Warner cable line, three 4-inch high voltage SCE lines, and three 4-inch Verizon telephone lines. These utilities would be temporarily relocated and supported during construction. It is anticipated that temporary utility poles would be placed adjacent to the bridge to support these utilities. To the extent

possible, the utility lines would span over the waterway with temporary poles placed outside the banks of the Short Channel. Temporary lighting may also need to be installed on these utility poles.

There are three additional utilities hung below the bridge deck soffit that would need to be relocated or temporarily supported: the 7-inch gas line, the 4-inch City sewer line, and the 8-inch City water line. It is anticipated that the 7-inch gas line would be temporarily supported and protected in place.

The existing 4-inch City sewer line would be removed, temporarily relocated, replaced with 4-inch stainless steel pipe, and restored to its original location under the bridge. The existing 8-inch City water line would be removed and replaced with 8-inch ductile iron pipe and permanently relocated to the outer edge of the bridge to facilitate future water line maintenance work.

The project would require limited construction staging; it is anticipated that staging would be located entirely in the project site (see **Figure 4**, Project Site Map). All utilities suspended underneath the bridge would be temporarily supported during construction. Utilities in the sidewalk would be temporarily relocated until the sidewalks are replaced. Tree pruning may be required as part of the project; no vegetation removal is anticipated. All bridge construction activities and construction staging would be completed entirely within the City's right of way (ROW) or channel waterway; therefore, no easements, including temporary construction easements (TCE) would be required for construction or operation of the project.



Source: Biggs Cardosa Associates Inc., 2012



**FIGURE 5. EXAMPLE PHOTOS OF TENTING SYSTEM  
Humboldt Drive Bridge over Short Channel**

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## **2. SURROUNDING LAND USES AND SETTING:**

Huntington Beach is located in Orange County, approximately 35 miles south of Los Angeles and 90 miles north of San Diego. Huntington Beach encompasses an area of 27.7 square miles, and is bounded by the Pacific Ocean to the west, the Cities of Westminster and Fountain Valley to the east, the City of Seal Beach to the north, and the City of Costa Mesa to the south.

The project site is located in Huntington Harbour, a 680-acre residential development at the northwest end of Huntington Beach. Huntington Harbour consists of five manmade islands with a network of channels used for boating. The channels are lined with private boat docks and provide access to the Pacific Ocean via Anaheim Bay. In the project site, the Humboldt Drive Bridge crosses over the channel and is the only vehicle access point to one man-made island, Humboldt Island, which is occupied by 335 single-family residences. A small, sandy beach (Humboldt Beach) is adjacent to and northeast of the bridge.

The area surrounding the project is mostly residential with some commercial and open space areas. The Seal Beach National Wildlife Refuge is approximately 0.5 mile northwest of the project site, the Bolsa Chica Ecological Reserve is approximately one mile south, and Sunset County Beach and the Pacific Ocean are approximately one mile west of the project site. The following land uses are directly adjacent to the project site:

**Table 1: Surrounding Land Uses**

<b>Direction</b>	<b>Land Use</b>
North	Short Channel – Water Recreation
South	Short Channel – Water Recreation
East	Huntington Harbour – Residential Low Density
West	Humboldt Island – Residential Low Density

## **3. OTHER PREVIOUS RELATED ENVIRONMENTAL DOCUMENTS**

The following environmental documents were previously completed for the project:

- Preliminary Environmental Study for Humboldt Drive Bridge Rehabilitation over Short Channel;
- Natural Environment Study for Humboldt Drive Bridge Rehabilitation over Short Channel; and
- Humboldt Drive Bridge Rehabilitation Water Quality Technical Memorandum.

## **4. OTHER AGENCIES WHOSE APPROVAL IS REQUIRED (AND PERMITS NEEDED)**

The following approvals and permits would be required for the project:

- United States (U.S.) Army Corps of Engineers (USACE): Section 404 Nationwide Permit;
- Santa Ana Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certification;
- California Coastal Commission (CCC): Coastal Development Permit under Section 30600, California Public Resources Code;

- National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service: Essential Fish Habitat (EFH) consultation under the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265), as amended through January 12, 2007 by the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (Public Law 109-479); and
- Caltrans National Environmental Policy Act (NEPA) approval.

The following permits may be required for the project:

- U.S. Coast Guard (USCG): Section 10 Rivers and Harbors Act (RHA) Permit or General Bridge Act Permit. Because there may be partial blockage of the channel during construction because of tenting and falsework on the bridge, a Section 10 RHA Permit or General Bridge Act Permit may be needed. The City and Caltrans will coordinate with the USCG to confirm whether a Section 10 RHA Permit or General Bridge Act Permit is needed for the project.

The following agreement was considered but determined not to be required for the project:

- California Department of Fish and Wildlife (CDFW): Section 1602 Streambed Alteration Agreement.



### **ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by the project, involving at least one impact that is a “Potentially Significant Impact” or is “Potentially Significant Unless Mitigated is Incorporated,” as indicated by the checklist on the following pages.

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

### **DETERMINATION**

(To be completed by the Lead Agency) On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions 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 proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

I find that the proposed project **MAY** have a “potentially significant impact” or “potentially significant unless mitigation is incorporated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, **nothing further is required**. ☐

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

## **EVALUATION OF ENVIRONMENTAL IMPACTS**

The checklist on the following pages has been formatted using Appendix G of Chapter 3, Title 14, California Code of Regulations, but has been augmented to reflect the City's requirements.

1. A brief explanation has been provided for all responses. References to information sources (e.g., general plans, zoning ordinances) have been incorporated into the checklist and cited in the parentheses following each question. (i.e. "Sources: 1, 35"). A source list has been provided in Section XIX. EARLIER ANALYSIS/SOURCE LIST.
2. All responses have taken into account the whole action involved and all potential impacts (i.e. within the project vicinity as well as in the project site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational).
3. A "Potentially Significant Impact" determination is made if an impact would be significant or potentially significant, or if there is a lack of information to make a finding of insignificance. If the checklist indicates one or more impacts that are "Potentially Significant Impacts", preparation of an Environmental Impact Report is warranted. The project would not result in any "Potentially Significant Impacts"; therefore, there are no instances in which this determination has not been made in the following checklist.
4. A "Potentially Significant Impact Unless Mitigation is Incorporated" determination has been made if the incorporation of mitigation measures would reduce an impact from a "Potentially Significant Impact" to a "Less than Significant Impact." Mitigation measures have been provided throughout the document, along with an explanation of how they would reduce the impact to a less than significant level (measures may be cross-referenced). A summary of mitigation measures is included as **Attachment 2**, Summary of Mitigation Measures.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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## I. LAND USE AND PLANNING.

*Would the project:*

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) 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? (Sources: 1, 2, 30) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge. The boundaries of the project site include the footprint of the existing bridge approaches, the widened (approximately two feet on each side) bridge deck, and the temporary construction areas below and adjacent to the bridge. Land use within the project site is designated as Right of Way on the City's General Plan Land Use Map.

The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. Implementation of the project would not require a change to the existing land use and/or zoning designations, and would not alter the size or intensity of the existing land use.

According to the City's Zoning Map, the project site is in the Coastal Zone (CZ) Overlay District. Section 221.06 of the City's Zoning and Subdivision Ordinance states that any development in the CZ Overlay District shall require a CDP.

The City's Local Coastal Program includes the following implementation programs:

- Coastal Element, Implementation Program 9: "Continue to implement, review, monitor and update, as necessary to improve public coastal access, the following: 1. Existing and proposed roadway systems on an annual basis..."
- Coastal Element, Implementation Program 10: "Solicit funds for an improvement study, and the resulting design, construction, maintenance of the Coastal Zone's infrastructure system."

Section 245.06 of the City's Zoning and Subdivision Ordinance also states that projects within the CCC's original permit jurisdiction (which includes all tidelands, submerged lands, public trust lands, and navigable waterways), require a CDP issued and processed by the CCC.

The project would include rehabilitating and widening the bridge, which provides the only access in and out of residential housing on Humboldt Island, a neighborhood in the CZ. Implementation of the project would maintain essential infrastructure that provides access within the Coastal Zone. The project would not conflict with the City's General Plan, Zoning and Subdivision Ordinance, Local Coastal Program; or any applicable land use plan, policy, or regulation of the City. A CDP application would be submitted to the CCC prior to construction. The project would not conflict with policies of the CCC or the California Coastal Act. Therefore, impacts would be less than significant and beneficial.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------------	--	------------------------------------	--------------

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan? (Source: 1) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is in a developed, residential area, and is not within a Habitat Conservation Plan or Natural Community Conservation Plan; therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Physically divide an established community? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is surrounded by single-family residential neighborhoods. The project would include rehabilitating and widening the bridge, which provides the only access in and out of residential housing on Humboldt Island. The bridge would remain in the same location, and existing access to and from the residential neighborhood would be maintained throughout the construction process. During project construction, a 5-foot wide temporary wooden bridge would be secured to the north side of the existing bridge to provide continuous pedestrian access. Because the bridge would continue to provide access during and after construction, the project would not result in the division of any neighborhoods or communities; therefore, there would be no impact.

## II. POPULATION AND HOUSING.

*Would the project:*

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extensions of roads or other infrastructure)? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge, but would not result in an extension of Humboldt Drive, additional travel lanes on the bridge, or the construction of new homes or businesses. Therefore, implementation of the project would not induce population growth in the area, and there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** All bridge construction activities would be entirely within the City's ROW or channel waterway, and would not result in displaced housing; therefore, there would be no impact.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (Source: 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:** All bridge construction activities would be entirely within the City's ROW or channel waterway, and would not result in displaced people; therefore, there would be no impact.

### III. GEOLOGY AND SOILS.

*Would the project:*

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Source: 4)

☐ ☐ ☒ ☐

**Discussion:** The nearest earthquake fault shown on the Alquist-Priolo Earthquake Fault Zone Map for the Seal Beach Quadrangle is a potentially active, unnamed fault approximately 0.5 mile west of the project site; therefore, the project site is outside of the Alquist-Priolo fault zone.

The project would not result in increased risks associated with a rupture of a known fault. The purpose of the project is to enhance public safety, extend the useful life of the bridge (which provides the only access in and out of residential housing on Humboldt Island), and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would not result in a reduced ability of the bridge to withstand rupture of a known earthquake fault. Project construction is expected to improve the structural stability of the bridge, and would be consistent with standard engineering practices, applicable building codes, and the City's municipal code. Therefore, impacts would be less than significant.

- ii) Strong seismic ground shaking? (Sources: 1, 3, 4,)

☐ ☐ ☒ ☐

**Discussion:** Southern California geology and seismicity are affected by plate tectonics and the forces that move these plates within the earth's crust. The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would not result in a reduced ability of the bridge to withstand seismic ground shaking. Project construction is expected to improve the structural stability of the bridge, be consistent with standard engineering practices and applicable building codes. Therefore, impacts would be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------------	--	------------------------------------	--------------

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| iii) Seismic-related ground failure, including liquefaction? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The City's General Plan indicates that the land in the project site has a very high potential for liquefaction. The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would not result in a reduced ability of the bridge to withstand potential impacts from seismic-related ground failure and would not increase exposure of people or structures to these impacts. Therefore, impacts would be less than significant.

- |                                    |                          |                          |                          |                                     |
|------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| iv) Landslides? (Sources: 1, 3, 5) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** According to the City's General Plan, potential landslide areas in Huntington Beach are limited to those areas near mesa bluffs. The bridge is not located near the mesa bluffs and there are no slopes adjacent to the project site. Therefore, there would be no impact.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge. No grading or fill would be required as part of the project. Excavation down to two feet below ground surface (bgs) would be required to install a temporary traffic signal; however, the soil exposure would be minimal and temporary. The project would not result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions. Therefore, impacts would be less than significant.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** According to the City's General Plan, the project site has a very high potential for liquefaction. However, the purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would be designed according to applicable codes, and would not result in reduced geologic stability of the project site or increased risks to life or property related to liquefaction. Therefore, impacts would be less than significant.



ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------------	--	------------------------------------	--------------

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** According to the City's General Plan, the potential for expansive soils varies from low to high in and adjacent to the project site. The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would be designed according to applicable codes, and would not result in reduced geologic stability of the project site or increased risks to life or property related to soil expansion. Therefore, impacts would be less than significant.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 wastewater? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge and would not require the use of septic tanks or alternative wastewater disposal systems. An existing sewer line suspended underneath the bridge would be protected in place during construction; therefore, there would be no impact.

#### IV. HYDROLOGY AND WATER QUALITY.

*Would the project:*

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Violate any water quality standards or waste discharge requirements? (Sources: 3, 6, 37) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** The following discussion incorporates the results of the Water Quality Technical Memorandum that was prepared for the project in October of 2013 by W.G. Zimmerman Engineering, Inc. The memorandum assessed the potential water quality impacts during construction and under post-construction conditions.

The project would not involve the discharge of waste; therefore, it would not violate waste discharge requirements. The project would require removal, rehabilitation, and replacement of the bridge deck over flowing water in the channel. Working platforms would be constructed of untreated timber, installed during low tide, and suspended from the existing bridge soffit and/or pier walls. Pier repair would also involve the removal of unsound concrete under the bridge but above the high-tide line (except during extremely high tides). Construction activities would include jackhammering, sandblasting, and patching to remove and replace unsound concrete, and using petroleum-based products, paints, solvents, and sealers.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

During construction, there is a potential for concrete dust, debris, paint chips, rust, and construction material to fall into the channel, which could result in the release of pollutants and contaminants and affect water quality in the channel. There is also the potential for sediment and increased turbidity to result from debris falling into the channel.

As part of a Storm Water Pollution Prevention Plan (SWPPP), standard Best Management Practices (BMP) would be incorporated into the project to comply with the City's National Pollutant Discharge Elimination System (NPDES) Permit, as well as other permits obtained from the USACE and RWQCB. BMPs that may be considered for the project include, but are not limited to, sediment controls, street sweeping, storm drain inlet protection, and waste management to ensure compliance with water quality standards. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. With the incorporation of BMPs, compliance with required permits, and implementation of measures W-1 through W-4 listed below, impacts would be less than significant.

#### **Water Quality Mitigation Measures:**

To mitigate impacts on hydrology and water quality, the following measures would be implemented during project construction.

##### **W-1 Reduced Work Areas**

During construction, the Contractor shall ensure that work areas are reduced to the maximum extent feasible to avoid the channel and minimize impacts on waters of the U.S. and state.

##### **W-2 Tenting System**

During construction, the Contractor shall ensure that measures for preventing material, equipment, and debris from falling into the channel are in place at all times while the bridge deck is being removed. The work area would be tented and isolated to minimize the potential for concrete dust, debris, paint chips, rust, and construction material to fall into the channel.

##### **W-3 Working Platforms**

During construction, the Contractor shall ensure that working platforms with protective cover enclosures are installed around the bridge piers prior to repair. All work on the piers would be performed during low tide using the protective cover enclosures to minimize the potential for construction materials to fall and carry pollutants and sediment plumes into the channel. The protective cover enclosures would be removed and the working platforms would be cleaned each day before high tide, when platforms would become submerged. Initial installation and final removal of the working platforms would be completed during low tide to minimize sedimentation and turbidity in the channel.

##### **W-4 Hazardous Materials BMPs**

During construction, the Contractor shall implement appropriate hazardous material BMPs to reduce the potential for chemical spills or contaminant releases, including any non-stormwater discharge. A spill prevention plan would be developed and included as part of the SWPPP. Implementation of standard hazardous materials management and spill control response measures will minimize the potential for contamination of road surfaces and waters of the U.S. in the channel. All vehicles and equipment will be

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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checked daily for fluid and fuel leaks, and drip pans will be placed under all equipment that is parked and not in operation. Vehicles and equipment will not be refueled or maintained in areas where pollutants could be released into the channel.

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|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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)? (Sources: 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project is located above a ground water aquifer that encompasses a portion of the southern Santa Ana River Basin and all of the Anaheim Bay-Huntington Harbour watershed areas. Groundwater elevation in the project site is approximately 20 feet bgs. The project would include rehabilitating and widening the bridge and would not require any excavation or work below the surface of the channel. The project would not require the use of groundwater or interfere with groundwater recharge; therefore, there would be no impact.

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site? (Sources: 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge. The bridge deck would be widened by approximately two feet on each side, which would result in a 13.5 percent increase in impervious surface area; however, the increase in storm water runoff would not be substantial and would not result in changes to the existing drainage patterns. The installation of the working platforms in the channel would be temporary and the area impacted would be limited to approximately 0.01 acre of water during high tide; therefore, alteration of the course of the channel would be negligible.

Standard BMPs would be incorporated into the project to comply with regulatory permits. BMPs that may be considered for the project include, but are not limited to, sediment controls, runoff reduction, preservation of existing drainage flows, and erosion control to avoid erosion and siltation. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. With the incorporation of BMPs and compliance with required permits, impacts would be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site? (Sources: 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge. The bridge deck would be widened by approximately two feet on each side, which would result in a 13.5 percent increase in impervious surface area; however, the increase in surface runoff would not be substantial, and would not result in changes to the existing drainage pattern. The installation of the working platforms in the channel would be limited to approximately 0.01 acre of water during high tide; therefore, alteration of the course of the channel would be negligible. Therefore, impacts would be less than significant.

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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? (Sources: 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The bridge deck would be widened by approximately two feet on each side, which would result in a 13.5 percent increase in impervious surface area; however, the increase in storm water runoff would not be substantial and would not exceed the capacity of existing systems. The project would not result in the generation of new sources of polluted runoff. Therefore, impacts would be less than significant.

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|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| f) Otherwise substantially degrade water quality? (Sources: 3, 6, 37) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** The project would require removal, rehabilitation, and replacement of the bridge deck over flowing water in the channel. Pier repair would also involve the removal of unsound concrete above the high-tide line. Construction activities would include jackhammering, sandblasting, and patching to remove and replace unsound concrete, and using petroleum-based products, paints, solvents, and sealers. There is a potential for concrete dust, debris, paint chips, rust, and construction material to fall into the channel, which could result in the release of pollutants and contaminants and affect water quality in the channel. There is also the potential for sediment and increased turbidity to result from debris falling into the channel.

Standard BMPs would be incorporated into the project to comply with regulatory permits. BMPs that may be considered for the project include, but are not limited to, preservation of existing vegetation, silt fences, street sweeping, storm drain inlet protection, waste management, and water conservation practices to avoid the degradation of water quality. Specific BMPs would be identified prior to construction during

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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the preparation of the SWPPP. With the incorporation of BMPs, compliance with required permits, and implementation of measures W-1 through W-4 listed in response a), impacts would be less than significant.

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|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge, and would not include the construction of any housing; therefore, there would be no impact.

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? (Sources: 3, 7, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project site is located within the base (100-year) floodplain elevation. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Orange County (Map Number 06059C0231J, Revised December 3, 2009) indicates that the project site is in Zone AE, defined on the map as a Special Flood Hazard Area that is subject to inundation by the one percent annual chance flood (100-year flood). This area is further specified as having a base flood elevation (BFE) of 7, meaning that the water-surface elevation would rise an estimated seven feet during a 100-year flood event. The lowest elevation of the bridge deck is 10.36 feet above the channel, which is 3.36 feet higher than the BFE, and therefore the site would not experience flooding during a 100-year event.

Implementation of the project would not result in any permanent hydraulic changes in the channel. No physical changes would be made to the floodplain; the freeboard, base floodplain elevation, flow volumes, patterns, and rates would be maintained. Additionally, there would be no longitudinal encroachments, no risk to life or property resulting from hydraulic modifications, and the natural and beneficial floodplain values would remain in their existing state. Therefore, impacts would be less than significant.

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 dam? (Sources: 3, 7) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge, which provides the only access in and out of residential housing on Humboldt Island. The bridge crosses over Short Channel, which is a 100-year flood hazard area. The location and design of the existing bridge would be maintained, and the risk of loss, injury, or death involving flooding would not be increased. Therefore, there would be no impact.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| j) Inundation by seiche, tsunami, or mudflow?<br>(Sources: 3, 5, 8, 38) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** A seiche is an oscillation of an enclosed or partially enclosed water body, such as a lake or harbor; a tsunami is a large ocean wave associated with a seismic event; and a mudflow is the rapid, downhill movement of a large mass of mud formed from loose soil and water. Land in and near the project site is relatively flat and developed within residential neighborhoods that have limited exposed soils; therefore, the project site would not be impacted by mudflows.

The project site is within a tsunami inundation area, according to the *Tsunami Inundation Map for Emergency Planning* for the Los Alamitos and Seal Beach Quadrangles, dated March 15, 2009. Seiches typically result from meteorological effects, seismic activity, or tsunamis, which could occur in the project site (see Section III. GEOLOGY AND SOILS). However, the repair and rehabilitation of the existing bridge would not increase the likelihood or potential damage associated with inundation by seiche or tsunami. Therefore, impacts would be less than significant.

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|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| k) Potentially impact storm water runoff from<br>construction activities? (Sources: 3, 6, 37) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** The project would require removal, rehabilitation, and replacement of the bridge deck over flowing water in the channel. Pier repair would also involve the removal of unsound concrete above the high-tide line. Construction activities would include jackhammering, sandblasting, and patching to remove and replace unsound concrete, and using petroleum-based products, paints, solvents, and sealers. There is a potential for concrete dust, debris, paint chips, rust, and construction material to fall into the channel, which could result in the release of pollutants and contaminants and affect water quality in the channel. There is also the potential for sediment and increased turbidity to result from debris falling into the channel.

Standard BMPs would be incorporated into the project to comply with regulatory permits and reduce the potential for polluted runoff. BMPs that may be considered for the project include, but are not limited to, sediment control, sandbags, and street vacuuming to collect construction-related runoff. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. With the implementation of the BMPs, compliance with required permits, and implementation of measures W-1 through W-4 listed in response a), impacts would be less than significant.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| l) Potentially impact storm water runoff from post-<br>construction activities? (Sources: 1, 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The location and design of the existing bridge would be maintained. The bridge deck would be widened by approximately two feet on each side, which would result in a 13.5 percent increase in impervious surface area; however, the increase in storm water runoff would not be substantial and would not exceed the capacity of existing systems. Therefore, impacts would be less than significant.



ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| m) Result in a potential for discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks, or other outdoor work areas? (Sources: 1, 3, 6, 37) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** Construction activities would include jackhammering, sandblasting, and patching to remove and replace unsound concrete, and using petroleum-based products, paints, solvents, and sealers. These activities could result in a discharge of storm water pollutants. Standard BMPs would be incorporated into the project to comply with regulatory permits. BMPs that may be considered for the project include, but are not limited to, stockpile management, spill prevention, and material delivery management to avoid impacts from outdoor work areas. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. Use of waste and hazardous materials during construction would be conducted in compliance with City, county, state, and federal pollution control requirements. With the incorporation of BMPs and compliance with required permits, compliance with regulations for waste and hazardous materials use, and implementation of measures W-1 through W-4 listed in response a), impacts would be less than significant.

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| n) Result in a potential for discharge of storm water to affect the beneficial uses of the receiving waters? (Sources: 1, 3, 6) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Project-related storm water runoff would be contained within the project site during construction and beneficial uses of the receiving waters would not be affected. Standard BMPs would be incorporated into the project to comply with regulatory permits and to reduce the potential for erosion. BMPs that may be considered for the project include, but are not limited to, sediment control, sandbags, and street vacuuming to collect construction-related runoff. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. With the incorporation of BMPs and compliance with required permits, impacts would be less than significant.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| o) Create or contribute significant increases in the flow velocity or volume of storm water runoff or cause environmental harm? (Sources: 1, 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge. The bridge deck would be widened by approximately two feet on each side, which would result in a 13.5 percent increase in impervious surface area; however, the increase in velocity and volume of storm water runoff would not be substantial. Therefore, impacts would be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| p) Create or contribute significant increases in erosion of the project site or surrounding areas?<br>(Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Vegetation removal would be conducted of plant species that are not protected or essential to the surrounding environment. Some vegetation removal would be required around the bulkheads (stone walls) adjacent to the bridge, including a small triangular patch of grass northwest of the bridge; the bush adjacent to the bulkhead southwest of the bridge; and the ivy, adjacent bush, and a small patch of grass southeast of the bridge. Vegetation removal, which may expose bare soils, can result in erosion. However, the area of exposed bare soils would not be substantial, and vegetation would be replaced following construction to the extent feasible. Increases in impervious surfaces can also increase the amount of surface water runoff, which can result in erosion. The bridge deck would be widened by approximately two feet on each side, which would result in a 13.5 percent increase in impervious surface area; however, the increase in surface runoff would not be substantial.

Standard BMPs would be incorporated into the project to comply with regulatory permits and to reduce the potential for erosion. BMPs that may be considered for the project include, but are not limited to, sediment controls, runoff reduction, preservation of existing drainage flows, and erosion control to avoid erosion and siltation. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. With the incorporation of BMPs and compliance with required permits, impacts would be less than significant.

## V. AIR QUALITY.

*Would the project:*

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? (Sources: 3, 9, 10, 11, 12, 13, 14) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

### **Discussion:**

#### *Ambient Air Quality Standards*

The National Ambient Air Quality Standards (NAAQS) were established by the Federal Clean Air Act of 1970 (FCAA), as amended in 1977 and 1990, and include primary and secondary standards. Primary standards are the maximum levels of pollution considered safe to protect public health and welfare, with an adequate margin of safety. Secondary standards protect public welfare from non-health-related adverse impacts, such as impaired visibility.

The six criteria pollutants for which NAAQS have been established are carbon monoxide (CO), ozone (O<sub>3</sub>), particulate matter equal to or smaller than 10 microns (PM<sub>10</sub>) or 2.5 microns (PM<sub>2.5</sub>) in diameter, sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead (Pb). In addition to these criteria pollutants, the California Clean Air Act of 1988 (CCAA) established California Ambient Air Quality Standards

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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(CAAQS) for visibility reducing particles, sulfates, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride. NAAQS and CAAQS are summarized in **Table 2** (Summary of Ambient Air Quality Standards).

**Table 2: Summary of Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards (CAAQs)	National Standards (NAAQs)	
			Primary <sup>(a)</sup>	Secondary <sup>(b)</sup>
Ozone (O <sub>3</sub> )	1-hour	0.09 ppm	–	Same as Primary
	8-hour	0.070 ppm	0.075 ppm	
Particulate Matter (PM <sub>10</sub> )	AAM	20 µg/m <sup>3</sup>	–	
	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	AAM	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15 µg/m3
	24-hour	No Standard	35 µg/m <sup>3</sup>	Same as Primary
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	None
	8-hour	9 ppm	9 ppm	
	8-hour (Lake Tahoe)	6 ppm	–	
Nitrogen Dioxide (NO <sub>2</sub> )	AAM	0.030 ppm	0.053 ppm	Same as Primary
	1-hour	0.18 ppm	100 ppb	
Sulfur Dioxide (SO <sub>2</sub> )	AAM		0.030 ppm	–
	24-hour	0.04 ppm	0.014 ppm	–
	3-hour	–	–	0.5 ppm
	1-hour	0.25 ppm	75 ppb	–
Lead	30-day Average	1.5 µg/m <sup>3</sup>	–	–
	Calendar Quarter	–	1.5 µg/m <sup>3</sup>	Same as Primary
	Rolling 3-Month Average	–	0.15 µg/m <sup>3</sup>	
Sulfates	24-hour	25 µg/m <sup>3</sup>	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm		
Vinyl Chloride	24-hour	0.01 ppm		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%		

(a) Levels necessary to protect the public health

(b) Levels necessary to protect the public welfare from known or anticipated adverse impacts

AAM = Annual Arithmetic Mean; µg/m<sup>3</sup> = Micrograms per cubic meter; ppm = parts per million; ppb = parts per billion

Source: CARB, 2013

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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The U.S. Environmental Protection Agency (U.S. EPA) regulates air quality at the federal level, and the California Air Resources Board (CARB) administers air policy in California. The Southern California Association of Governments (SCAG) is the federally designated Metropolitan Planning Organization (MPO) that is responsible for regional transportation and air quality planning in the six-county, Southern California region; and the South Coast Air Quality Management District (SCAQMD) is the air district that controls air pollution in the South Coast Air Basin (SCAB), which includes most of Los Angeles, San Bernardino, and Riverside Counties and all of Orange County.

#### *Ambient Air Quality Attainment Status*

Based on monitored air pollutant concentrations, the U.S. EPA and CARB designate an area's status in attaining the NAAQS and CAAQS, respectively, for criteria pollutants. When an area has been reclassified from a nonattainment to an attainment area for a federal standard, the status is identified as "maintenance", and a plan that will keep the region in attainment for the following 10 years is required. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status.

The CCAA divides districts that are in nonattainment into moderate, serious, severe, and extreme air pollution categories, with increasingly stringent controls mandated for each nonattainment sub-category. The U.S. EPA also uses the same sub-categories for the nonattainment status.

**Table 3** (State and Federal Ambient Air Quality Attainment Designations for the SCAB) summarizes the state and federal attainment status in the SCAB for criteria pollutants. The SCAB is currently designated as a nonattainment area for state and federal O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> standards, and the state NO<sub>2</sub> standard. Los Angeles County is also currently designated as nonattainment for the state and federal lead standard. For the remaining state and federal standards, the SCAB is designated as an attainment or unclassified area.

**Table 3: State and Federal Ambient Air Quality Attainment Designations for the SCAB**

Criteria Pollutant	State Designation	Federal Designation
Ozone (O <sub>3</sub> )	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter (PM <sub>10</sub> )	Non-Attainment	Non-Attainment
Fine Particulate Matter (PM <sub>2.5</sub> )	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	Attainment	Attainment /Maintenance
Nitrogen Dioxide (NO <sub>2</sub> )	Non-Attainment	Attainment /Maintenance
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment
Lead*	Non-Attainment	Non-Attainment
Sulfates	Attainment	No Federal Standards
Hydrogen Sulfide (H <sub>2</sub> S)	Unclassified	

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

Visibility-Reducing Particle Matter	Unclassified	
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*\* State nonattainment designation for lead is based on monitoring data for a new site near a lead acid battery reclamation facility in the Los Angeles County portion of the SCAB, effective December 31, 2010; the remainder of the SCAB is in attainment with the state standard for lead.*

*Source: SCAQMD, 2012; CARB, 2012; U.S. EPA, 2013*

### *Air Toxics Regulations*

The FCAA also regulates air toxics, which are air pollutants (excluding O<sub>3</sub>, CO, SO<sub>2</sub>, and NO<sub>2</sub>) that may result in or contribute to an increase in mortality or serious illness, or pose a hazard to human health. Typically, there are small quantities of air toxics in the air; however, because of their high toxicity, the toxics may pose a threat to public health even at very low concentrations.

Air toxics are treated differently from criteria pollutants with set ambient air quality standards, because there is no threshold beneath which there would be no health impacts. Pursuant to the FCAA Amendments of 1990, the U.S. EPA is required to control levels of 188 air toxics, also referred to as Hazardous Air Pollutants (HAP), and has set National Emission Standards for HAPs (NESHAP). NESHAPs are technology-based, source-specific regulations that limit allowable emissions of HAPs.

Mobile source air toxics (MSAT) are a subset of the 188 HAPs defined in the FCAA and are federally regulated by 40 CFR 1502.22 by the U.S. EPA. MSATs include 21 compounds emitted from highway vehicles and non-road equipment. The U.S. EPA issued a 2007 rule on the Control of HAPs from Mobile Sources (Federal Register, Vol. 72, Number [No.] 37, Page 8430, February 26, 2007), which includes controls that decrease MSAT emissions through cleaner fuels and cleaner engines.

### *Project Impacts*

The project would not result in an increased number of lanes or an increased capacity on the bridge; therefore, it would not result in the generation of new stationary or mobile sources of emissions.

Project construction would require the use of various types of construction equipment, including dump trucks, front-end loaders, air compressors, pneumatic tools, concrete mixers, pump trucks, small jackhammers, and sandblasters. Construction of the project would result in the generation of temporary, short-term emissions of various air pollutants, including fugitive dust emissions and mobile source emissions. Fugitive dust emissions include any solid PM that is lifted into the ambient air. Construction activities with the potential to result in fugitive dust emissions include demolition activities (e.g., removal of concrete from the bridge).

Mobile source emissions include primarily oxides of nitrogen (NO<sub>x</sub>), CO, volatile organic compounds (VOC), PM<sub>10</sub> and PM<sub>2.5</sub>, and MSATs, such as diesel particulate matter (DPM). Emissions could also lead to the formation of O<sub>3</sub>, which is a regional pollutant that is derived from NO<sub>x</sub> and VOCs when combined with sunlight and heat. Construction activities that could result in mobile source emissions include the use of construction equipment (bulldozers, trucks, and scrapers), truck delivery of construction materials, hauling of construction debris, and workers commuting to and from the project site. Mobile source emissions from construction equipment are typically highest during use of heavy-duty, diesel-fueled equipment.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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CARB has passed numerous regulations to reduce the public's exposure to DPM and NO<sub>x</sub> emissions. For example, the In-Use Off-Road Diesel Vehicle Regulation includes enforceable elements, such as limits on vehicle idling to no more than five consecutive minutes, and equipment reporting and labeling. Standard BMPs would be incorporated into the project to comply with CARB's regulations as well as SCAQMD's Rule 403, Fugitive Dust, which requires the implementation of measures to prevent, reduce, or mitigate fugitive dust emissions. BMPs that may be considered for the project include, but are not limited to, limitations on idling, maintenance of construction equipment, and dust control to comply with CARB and SCAQMD regulations.

Pollutant emissions would vary from day to day depending on the intensity and type of construction activity; however, construction activities would be short-term and would be completed within approximately eight months.

CalEEMod emissions software was used to estimate the emissions of criteria pollutants from construction activities. Estimates of the types of equipment anticipated in each phase of construction were based on the project description and construction phases. Equipment exhaust emissions were determined using the CalEEMod default values for horsepower and load factors. Estimated emissions do not take into account emission reductions as a result of typical fugitive dust control measures. The estimates were based on conservative assumptions, and present a worst-case scenario for planning purposes. As shown in **Table 4**, the unmitigated estimated daily emissions would be below the SCAQMD significance thresholds for all criteria pollutants.

**Table 4: Estimated Project Construction Emissions**

	<u>Pollutant Emission (lbs/day)</u>					
	<u>VOC/ ROG</u>	<u>NO<sub>x</sub></u>	<u>CO</u>	<u>PM<sub>10</sub></u>	<u>PM<sub>2.5</sub></u>	<u>SO<sub>x</sub></u>
Estimated Emissions	1.3	0.9	0.7	0.3	0.1	0.0
SCAQMD Significance Thresholds	75	100	550	150	55	150
Significant Impact?	No	No	No	No	No	No

Source: CalEEMod

Therefore, with compliance with CARB and SCAQMD regulations, air quality impacts associated with construction of the project would be less than significant. Operation of the project would not include the generation of new stationary or mobile sources of emissions. Therefore, no long-term air quality impacts are anticipated, and impacts would be less than significant.

- b) Expose sensitive receptors to substantial pollutant concentrations? (Sources: 3, 6) ☐ ☐ ☒ ☐

**Discussion:** Sensitive receptors are persons who are more susceptible to air pollution than the general population, such as children, athletes, the elderly, and the chronically ill. Sensitive receptors are typically

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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considered those found in areas where there are residences, schools, daycare centers, parks, recreation areas, medical facilities, nursing homes, and convalescent care facilities. In the project site, the bridge crosses over the channel, which is used for recreational boating and swimming, and is surrounded by residences. Therefore, there is potential for sensitive receptors to be in or adjacent to the project site.

The project would not result in an increased number of lanes or an increased capacity on the bridge; therefore, it would not result in the generation of increased criteria pollutant emissions. Emissions from project construction would be short-term and intermittent, and project construction would comply with standard BMPs and applicable regulations to minimize pollutant emissions.

For safety purposes, the portion of the channel underneath the bridge may be temporarily closed to boats and swimmers during construction, thereby limiting the number of people in the channel who might be affected by short-term emissions. In addition, construction would be limited to the daytime and weekdays, when many people are away from their homes, therefore minimizing the number of people in surrounding residences who might be affected. Therefore, impacts would be less than significant.

- c) Create objectionable odors affecting a ☐ ☐ ☒ ☐  
substantial number of people? (Sources: 3, 6)

**Discussion:** Operation of construction equipment would generate odors (diesel exhaust) that could affect adjacent properties and those using the channel for boating. However, these odors would be temporary, limited to daytime hours, and isolated in the immediate vicinity of construction activities. Potential odors from the project would not be expected to affect a substantial number of people. Therefore, impacts would be less than significant.

- d) Conflict or obstruct implementation of the ☐ ☐ ☐ ☒  
applicable air quality plan? (Sources: 3, 15, 16,  
17)

**Discussion:** The most recently approved applicable air quality plan for the project site is the 2012 Air Quality Management Plan (AQMP), which was designed to meet both federal and state requirements. The AQMP strategy is based on projections from local general plans and regional growth projects developed by SCAG. A project would be considered inconsistent with an AQMP if the project would result in population and/or employment growth that exceeds growth estimates included in the AQMP.

The project would include rehabilitating and widening the bridge. Implementation of the project would not affect population, housing units, or employment, or be inconsistent with the growth forecasts identified in the AQMP. In addition, the project was included in the regional emissions analysis conducted by SCAG for the conforming 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The project was included as RTP I.D. ORA020501 in SCAG's 2013 Federal Transportation Improvement Program (FTIP), which allocates funding to implement the RTP. In federal non-attainment or maintenance areas, the RTP and FTIP projects are required to comply with the transportation conformity requirements in the U.S. EPA's Transportation Conformity Regulations.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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The project's design concept and scope have not changed from what was analyzed in the RTP. Therefore, implementation of the project would not conflict or obstruct implementation of the 2012 AQMP, and there would be no impact.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (Sources: 3, 10, 11, 12) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The SCAB is currently in non-attainment for both state and federal ambient air quality standards for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>, and in non-attainment for the state NO<sub>2</sub> standard. As shown in **Table 4**, the unmitigated estimated daily emissions would be below the SCAQMD significance thresholds for all criteria pollutants. The project would not result in an increased number of lanes or increased capacity on the bridge; therefore, it would not result in the permanent generation of new criteria pollutant emissions.

Construction emissions would be short-term and intermittent, and project construction would comply with standard BMPs and applicable regulations to minimize pollutant emissions; the increase in criteria pollutants resulting from construction activities would be less than cumulatively considerable. Therefore, impacts would be less than significant.

## VI. TRANSPORTATION/TRAFFIC.

*Would the project:*

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (Sources: 1, 18, 19) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge to provide the required roadway width and standard sidewalks. The project would help to ensure the safe and efficient movement of people and vehicles to and from Humboldt Island. The project would be consistent with the City's General Plan.



ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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Humboldt Drive is classified as a Local Urban Street. In 2011, the measured average daily traffic (ADT) of the roadway was 3,000 vehicles. The roadway is not classified as a bikeway on the City's Bikeways Map and does not serve as a public transit route on the Orange County Transportation Authority's Bus Transit System.

There are sidewalks on both sides of the existing bridge. During construction, the existing bridge deck, barriers, and sidewalks would be removed; a 5-foot wide temporary wooden bridge would be secured to the north side of the existing bridge to provide continuous pedestrian access.

The project would be completed in two phases during an 8-month period. During each phase, one lane would be used for vehicular traffic and one lane would be closed for construction. A temporary traffic signal would be installed to direct traffic over the bridge deck. During this time, traffic disruption is anticipated because vehicles traveling one direction would need to stop for a period at the traffic signal while oncoming traffic crosses the bridge.

Although traffic flow on the bridge would be temporarily restricted during construction, the roadway would be restored to existing conditions following construction, and long-term circulation would not be affected. Following construction, both sidewalks and vehicular lanes on the bridge would be returned to existing conditions and no long-term impacts would occur. Therefore, impacts to the existing circulation system would be less than significant.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Conflict with an applicable congestion management program, 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? (Source: 20) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project would not conflict with the existing Orange County Congestion Management Program (CMP), which requires that CMP Highway System (CMPHS) intersections maintain a level of service (LOS, a measure of traffic flow) of 'E' or better, unless the baseline LOS is lower than 'E.' There are no CMPHS intersections in or adjacent to the project site. While traffic flow on the bridge would be temporarily restricted during construction, the roadway would be restored to existing conditions following construction, and operational circulation would not be affected. Therefore, impacts would be less than significant.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is approximately 4.7 miles south of the nearest airport, the Los Alamitos Joint Forces Training Base, and is not within an airport land use planning area. The project would include

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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rehabilitating and widening the bridge and would not result in changes to air traffic patterns. Therefore, there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would also include widening the bridge deck to be consistent with the adjacent roadway width and provide standard sidewalks on the bridge. The project would not result in changes to the existing bridge alignment or function. Therefore, implementation of the project would not increase hazards because of a design feature or incompatible use and there would be no impact.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) Result in inadequate emergency access? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The existing bridge provides the only access in and out of residential housing on Humboldt Island. The project would be completed in two phases during an 8-month period. During each phase, one lane would be used for vehicular traffic and one lane would be closed for construction. A temporary traffic signal would be installed to direct traffic over the bridge deck. During this time, traffic disruption is anticipated because vehicles traveling one direction would need to stop for a period at the traffic signal while oncoming traffic crosses the bridge.

While traffic flow on the bridge would be temporarily restricted, emergency vehicles would continue to have access to the island throughout the construction period. Opticom devices will be put into place with the temporary traffic signal. The Opticom device provides emergency vehicles with a “forced” green light during an emergency. All storage, vehicles, equipment, and/or fencing will be kept away from the K-rails with no obstructions above 4 feet to provide proper clearance for emergency vehicles. Construction activities would be coordinated with the City’s emergency service providers to avoid disruption of emergency access. There is an existing fire hydrant located on the south side of the eastern bridge approach; this fire hydrant would remain accessible during project construction. Following construction, the roadway would be restored to existing conditions, and long-term emergency access would not be affected. Therefore, impacts would be less than significant.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) Result in inadequate parking capacity? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Parking is not permitted on the bridge or bridge approaches, and would not be permitted following project construction. Therefore, there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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pedestrian facilities, or otherwise decrease the performance or safety of such facilities?  
(Sources: 3, 18, 19)

**Discussion:** According to the City’s General Plan Circulation Element, the City has a goal to “facilitate the safe and effective movement of people and goods...” Humboldt Drive is not classified as a bikeway on the City’s Bikeways Map or a public transit route on the Orange County Transportation Authority’s Bus System Map. There are sidewalks on both sides of the existing bridge.

Pedestrian access would be maintained by a temporary pedestrian bridge throughout construction. Following construction, 5-foot sidewalks would be available for use on both sides of the bridge. The purpose of the project is to enhance public safety, extend the useful life of the bridge, and prevent environmental damage by performing repair and rehabilitation work on the existing bridge. The project would be consistent with the plans to promote safety within the City’s transportation system. With implementation of a City-approved traffic control plan (see **Attachment 1**, Project Plans, sheets TC1-TC2), there would be no impact.

## VII. BIOLOGICAL RESOURCES.

*Would the project:*

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 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? (Source: 34) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

### **Discussion:**

The following discussion incorporates the results of the Natural Environment Study (NES) that was conducted for the project. Biological reconnaissance surveys were conducted for the project on November 13, 2012 and January 14, 2013. No sensitive or protected plant or wildlife species were observed within the Biological Study Area (BSA) during the surveys.

The BSA is in an urban developed area surrounded by waterways, residences, and private docks. The BSA is paved, and the only existing vegetation is associated with residential units and a small sandbank. There are king palms (*Archontophoenix cunninghamiana*), honeysuckle (*Lonicera* sp.), and a Brazilian pepper (*Schinus terebinthifolius*) adjacent to residential properties southeast of the bridge. There are juniper (*Juniper* sp.) trees on a residential property southwest of the bridge, and king palms along Humboldt Drive northwest of the bridge. There are myoporum bushes along the edge of Humboldt Beach between the sandbank and the road. The sandbank is to the northeast of the bridge; its land use is designated as a park and used for recreational purposes.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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The California Natural Diversity Database (CNDDDB) includes plants on the inventory list compiled by the U.S. Fish and Wildlife Service (USFWS), CDFW, and the California Native Plant Society (CNPS). According to the CNDDDB, there are several special-status plant and wildlife species with potential to be in the project site, based on geographic distribution; however, none of these species were observed during the biological surveys, and based on existing habitat, the potential for them to be in the project site is considered low.

The Huntington Beach Harbour, including the BSA, has been designated EFH under the Magnuson-Stevens Act (MSA), and the Pacific Groundfish Species Fishery Management Plan (PGFMP). The channel, as well as the adjacent areas of Anaheim Bay, Bolsa Chica Ecological Preserve, and the Seal Beach National Wildlife Refuge, are designated as EFH for Pacific groundfish under the PGFMP. These areas are utilized by a multitude of marine fish, including federally-managed fish species. Although not observed during surveys, several fish species, including Pacific Coast groundfish, juvenile flatfish, juvenile white sea bass (*Atractoscion nobilis*), coastal pelagic species (i.e., California anchovy (*Engraulis mordax*)), juvenile ling cod (*Ophiodon elongates*), and leopard sharks (*Triakis semifasciata*), have potential to be in the BSA during construction.

Special-status plant and wildlife species are not anticipated to be in the BSA; therefore, the project would not be expected to result in impacts on these species. EFH could be impacted if construction materials and debris were to fall into the harbor; however, with the implementation of measures W-1 through W-4 listed in Section IV. HYDROLOGY AND WATER QUALITY, impacts would be less than significant.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, 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"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** There are no riparian or land-based natural communities in the BSA that are identified in local or regional plans, policies, or regulations or by the CDFW or USFWS; therefore, there would be no impact.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The National Wetland Inventory (NWI) reference maps identify non-wetland waters of the U.S. in and adjacent to the project site that are categorized as estuarine and marine deepwater. Surveys of the BSA determined that there are no wetlands in the BSA, and all waters under the bridge are deeper

ISSUES (and Supporting Information Sources):	Potentially Significant Unless Mitigation is Incorporated				Less Than Significant Impact	No Impact
	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Potentially Significant Unless Mitigation is Incorporated	Potentially Significant Unless Mitigation is Incorporated		

than 6.6 feet deep during low-water tidal phase, which is considered too deep to be defined as wetlands. Therefore, impacts would be less than significant.

Although there are no wetlands in the BSA, there is approximately 0.44 acres of non-wetland waters of the U.S. in the BSA. The project would result in temporary impacts on approximately 0.01 acre of waters of the U.S. from the installation of working platforms around the bridge piers. Because the project would result in temporary impacts on waters of the U.S., a Section 404 permit would be required. The project is expected to be permitted under Section 404 Nationwide Permit 14 for linear transportation projects. A Pre-construction Notification package would be submitted to the USACE prior to project construction.

Because the project requires a 404 permit, a Section 401 Water Quality Certification would be required from the applicable RWQCB under CWA Section 401. A Water Quality Certification Application Package would be submitted to the RWQCB prior to project construction.

The project would affect only marine resources within the harbour, which is not a freshwater stream or lake; therefore, a notification under Section 1602 of the California Fish and Game Code and a Streambed Alteration Agreement are not required.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** The BSA is in an urban, residential area, and is not likely to be used as a regional wildlife movement corridor or migratory fish passageway. Because the BSA is located in an urbanized area, most wildlife species in the area are expected to be well adapted to human disturbance. The bridge structure provides marginal habitat for bats. The steel beams that support the bridge do not provide bat roosting habitat, and they are sealed against the bridge deck, but there is some potential for bats to roost in crevices between the bridge bearings and the piers. The potential for bats to be in the project area is considered low based on existing habitat, and with the incorporation of mitigation measures, the proposed project is not anticipated to adversely affect bats. There are mature trees adjacent to residential properties; therefore, there is potential for migratory birds to be in the project site. The underside of the bridge also provides areas where birds could nest; however, no evidence of nests on the bridge was observed during surveys conducted in January and April 2013.

Some vegetation removal would be required around the bulkheads (stone walls) adjacent to the bridge, including a small triangular patch of grass northwest of the bridge; the bush adjacent to the bulkhead southwest of the bridge; and the ivy, adjacent bush, and a small patch of grass southeast of the bridge. Vegetation removal and removal of the bridge deck could result in impacts on nesting birds if they are in the BSA during construction.

Removal of the bridge deck and replacement of unsound concrete on the bridge piers could result in impacts to migratory fish species if they are in the BSA during construction. The damaged sections of the bridge piers would be isolated with platforms and enclosures during construction, and the area would not

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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need to be dewatered. In addition, work on the piers would be performed during low tide, so impacts on the channel would be minimal.

If sensitive wildlife species were to move into the project site during construction, construction activities in the channel could potentially result in direct and/or indirect impacts on these species through habitat disturbance. With the implementation of measures W-1 through W-4 listed in Section IV. HYDROLOGY AND WATER QUALITY, and measures B-1 through B-6 listed below, impacts on nesting birds, bats, and migratory fish species would be less than significant.

### **Biological Resources Mitigation Measures:**

To mitigate impacts on nesting migratory bird species, bats, and other wildlife species, the following measures would be implemented during project construction.

#### **B-1 Reduced Construction Areas**

During construction, the Contractor shall ensure that construction areas are reduced to the maximum extent feasible to avoid impacts on migratory birds.

#### **B-2 Scheduling of Construction Outside Nesting Bird Season**

During construction, the Contractor shall ensure that construction activities, including vegetation removal, are scheduled outside of the nesting bird season (February 15 to September 1) to the extent feasible. In addition, vegetation removal for the project would be minimized to the extent feasible.

#### **B-3 Pre-Construction Nesting Bird Surveys**

If construction is required during bird nesting season, the Contractor shall ensure that pre-construction nesting bird surveys are completed by a qualified biologist no more than 48 hours prior to construction to determine if nesting birds or active nests are on the bridge, beneath the bridge, or within 300 feet of the construction area. Surveys would be repeated if construction activities are suspended for five days or more.

#### **B-4 Nesting Bird Surveys by Qualified Biologist**

If vegetation removal must be completed during the nesting season, that Contractor shall ensure that nesting bird surveys are completed by a qualified biologist within 48 hours prior to these activities to determine whether nesting birds are in these areas.

#### **B-5 Appropriate Buffers if Nesting Birds Found**

If nesting birds are found in the project site, the Contractor shall ensure during construction that appropriate buffers (typically 300 feet for songbirds) are installed, in coordination with the appropriate resource agencies, to ensure that nesting birds and/or their nests are not harmed.

#### **B-6 Wildlife Species**

The Contractor shall ensure that pre-construction wildlife surveys are completed by a qualified biologist no more than 48 hours prior to clearing, grubbing, or other activities to determine the presence/absence of nesting birds, bats or other sensitive species within 300 feet of the construction area. Surveys would be

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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repeated if construction activities are suspended for five days or more. If any wildlife species are identified, appropriate measures would be developed and implemented to avoid impacts on these species, in consultation with resource agencies as applicable.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** No tree removal or vegetation removal is anticipated as part of the project. The project would not conflict with any local policies and ordinances protecting biological resources. Therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is not within the planning area of any Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local habitat conservation plans; therefore, there would be no impact.

## VIII. MINERAL RESOURCES.

*Would the project:*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state? (Sources: 1, 21) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The City has historically been an area used for oil, gas, sand, gravel, and peat extraction. However, according to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), there are no active oil wells in or adjacent to the project site. There are no other known mineral resources in the project site. Therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? (Source: 1) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** According to the City's General Plan, the project site is not within a mineral resource recovery site. The project would include repair and rehabilitation work on the existing bridge. Therefore, there would be no impact.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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## IX. HAZARDS AND HAZARDOUS MATERIALS.

*Would the project:*

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Sources: 3, 6) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Existing maintenance activities for the bridge include the replacement of street lighting and the use of paint on the bridge, sealants on the asphalt roadway surface, and other materials associated with routine maintenance of the structure. Hazardous materials may be used during the construction of the project, including petroleum-based products, paints, solvents, and sealers; however, the transport, use, and disposal of these materials would be conducted in compliance with City, county, state, and federal regulations. Following construction, there would be no increase in the routine transport, use, or disposal of hazardous materials above routine maintenance. Therefore, impacts would be less than significant.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 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? (Sources: 3, 6) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** The project would include the removal and replacement of the concrete barriers, sidewalks, and bridge deck; and removal and replacement of unsound concrete on the bridge piers. Structures built before 1978 may contain asbestos-containing materials and/or lead-based paint. Since the bridge was constructed in 1963, there is potential for asbestos-containing material to be in bridge joints and concrete piping, and for lead-based paint to be in the steel members and pavement markings.

During the construction of the project, hazardous materials may be used, including petroleum-based products, paints, solvents, and sealers; however, the transport, use, or disposal of these materials would be conducted in compliance with City, county, state, and federal regulations. Materials removed from the bridge deck and under the bridge would also be disposed of at an approved disposal site. With adherence to existing construction standards and requirements, and implementation of measures H-1 and H-2 listed below, impacts would be less than significant.

### Hazardous Materials Mitigation Measures:

To mitigate impacts from hazardous materials, the following measures would be implemented during project construction.

#### H-1 Lead and Asbestos Survey

The Contractor shall ensure that a lead and asbestos survey is completed by a licensed specialist prior to construction to determine if there are lead- and asbestos-containing materials in the bridge structure. If no lead- or asbestos-containing materials are found during this process, no further action would be required.



ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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## H-2 Proper Handling and Disposal

If lead- and asbestos-containing materials are found in the bridge structure, the Contractor shall ensure during construction that handling and disposal are conducted in a manner approved by the California Division of Occupational Safety and Health (Cal-OSHA).

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school? (Sources: 3, 6) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project site is within 0.25 mile of one school: Harbour View Elementary School, located approximately 0.2 mile to the southeast. During the construction of the project, hazardous materials may be used including petroleum-based products, paints, solvents, and sealers; however, these materials are considered safe for outdoor use and in well-ventilated areas, and the use of these materials would not be expected to result in impacts on the school. The transport, use, or disposal of hazardous materials during construction would be conducted in compliance with City, county, state, and federal regulations, and would not be conducted on school property. Therefore, impacts would be less than significant.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment? (Sources: 3, 22) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** A search of the California Department of Toxic Substances Control (DTSC) EnviroStor website did not identify any Federal Superfund Sites, State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Permitted Sites, or Corrective Action Sites in or adjacent to the project site. The surrounding land uses are residential, which are not typically associated with hazardous materials or waste uses. Minimal sub-surface work down to two feet bgs would be required to install a temporary traffic signal on the roadway, so the potential that contaminated soils or groundwater would be encountered is low. All bridge construction activities would be entirely within the City's ROW or channel waterway so the acquisition of new ROW would not be required. Therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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**Discussion:** The project site is approximately 4.7 miles south of the nearest airport, the Los Alamitos Joint Forces Training Base. The project site is not within an airport land use planning area or within two miles of a public airport or public use airport; therefore, there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is approximately two miles southwest of the nearest private landing facility, the Boeing Heliport. Implementation of the project would result in an increased air-related safety hazards beyond existing conditions. Therefore, there would be no impact.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| g) Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Sources: 3, 6) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The existing bridge provides the only access in and out of residential housing on Humboldt Island. According to the City's Tsunami Evacuation Map, Humboldt Drive is not designated as a tsunami evacuation path. However, residents on Humboldt Island would need to travel across the bridge to reach the nearest designated tsunami evacuation path, Heil Avenue. Other emergency evacuations would be expected to follow a similar route.

One lane would be maintained on the bridge at all times during construction activities, and coordination would be conducted with the City's emergency service providers to ensure that emergency response and evacuation can be properly implemented during construction. There is an existing fire hydrant located on the south side of the eastern bridge approach; this fire hydrant would remain accessible during project construction.

The purpose of the project is to extend the useful life of the bridge and maintain its function as the only evacuation route for residents of Humboldt Island. Implementation of the project would maintain the bridge as the only emergency access and evacuation route to and from Humboldt Island. Construction and operation of the project would be conducted in compliance with the City's Emergency Management and Homeland Security (EMHS) emergency response procedures. Therefore, impacts would be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (Source: 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:** Wildlands are undisturbed areas where vegetation and wildlife remain in their natural state. The project site is in a developed, residential area, and there are no wildlands in or adjacent to the project site. Therefore, there would be no impact.

## X. NOISE.

*Would the project result in:*

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 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? (Sources: 3, 6, 23) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

### **Discussion:**

#### *Noise Terminology*

Noise is defined as an unwanted, undesirable, or annoying sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium to the ear. Continuous sound can be described by frequency and amplitude. Frequency (or the rate of vibration) is the property of sound that most determines pitch and is expressed in terms of cycles per second, or Hertz (Hz). The audible frequency range for humans is generally between 20 Hz and 20,000 Hz. The amplitude (or degree of change) of pressure waves generated by a sound source determines the volume of the source.

A logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The increased sensitivity of the human ear to certain frequencies is approximated by skewing or weighing the dB scale towards those frequencies. The weighted dB scale which best approximates the response of the human ear is known as the A-weighted scale (dBA) and all sound levels in this section are reported in terms of dBA.

#### *City Municipal Code (Chapter 8.40, Noise Control)*

The City's Noise Ordinance (City of Huntington Beach Municipal Code, Chapter 8.40) includes noise control provisions designed to control unnecessary, excessive, and annoying sounds. The project site is surrounded by residential properties. According to the Noise Ordinance, the City restricts the maximum allowable sound levels measured on residential land uses during daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) hours. These levels are shown in **Table 5** (Exterior Noise Standards for Source Land Uses).

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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**Table 5: Exterior Noise Standards for Residential Land Uses**

Type of Land Use	Time Period	Noise Levels
Residential Properties	Daytime	55
	Nighttime	50

*Source: City of Huntington Beach, Municipal Code, Chapter 8.40.050*

According to the City's Noise Ordinance, exceedances of the exterior noise standards in **Table 5** are prohibited as follows:

- Any exceedance of less than five dBA for a cumulative period of more than 30 minutes in any hour;
- An exceedance of five dBA for a cumulative period of more than 15 minutes in any hour;
- An exceedance of 10 dBA for a cumulative period of more than five minutes in any hour;
- An exceedance of 15 dBA for a cumulative period of more than one minute in any hour; or
- An exceedance of 20 dBA for any period.

The City's Noise Ordinance prohibits all construction activities between the hours of 8:00 p.m. and 7:00 a.m. from Monday through Saturday, and at any time on Sunday or a federal holiday. In addition, the ordinance states that noise sources associated with the construction, repair, remodeling or grading of any real property are exempt from the exterior noise standards outlined above, as long as a permit is obtained from the City and the construction activities are completed within the hours required in the Noise Ordinance.

#### *Project Impacts*

The project would not result in an increased number of lanes or increased capacity on the bridge. The project would not result in travel lanes being moved closer to the surrounding residential properties. Therefore, implementation of the project would not change the existing noise environment in or near the project site.

The project would include the removal and replacement of the concrete barriers, sidewalks and bridge deck, and the removal and replacement of unsound concrete on the bridge piers. These construction activities could result in short-term and intermittent increases in noise levels in the project site.

Noise levels would vary depending on construction activity, equipment type, duration of use, and the distance between noise source and receiver. Typical sound emission characteristics of construction equipment that may be used during project construction are provided in **Table 6** below (Construction Equipment Noise Levels). The noise levels are described in terms of  $L_{max}$ , which is the maximum sound level of a particular noise event.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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**Table 6: Construction Equipment Noise Levels**

Equipment Type	Maximum Noise Level ( $L_{max}$ ) of Equipment at 50 Feet (in dBA)
Dump Truck	76
Front End Loader	79
Air Compressor	78
Pneumatic Tools	85
Concrete Mixer Truck	79
Concrete Pump Truck	81
Jackhammer	89
Sand Blasting	96

*Source: U.S. Department of Transportation, Federal Highway Administration, 2011*

*Notes: The noise levels shown above are actual, measured noise levels based on measurements performed for the Central Artery/Tunnel Project. Noise measurements were averaged to compute the actual emission level.*

The construction equipment noise levels shown in **Table 6** exceed the noise levels specified in the City's Noise Ordinance for residential land uses. The surrounding land use is single-family residential, with the nearest residences located approximately 17 feet from the project site. Therefore, sensitive noise receptors in surrounding residences would likely be exposed to noise levels in excess of the noise control provisions included in the Noise Ordinance.

Construction activities would be short-term and intermittent, and noise levels would return to existing conditions following construction. In addition, most construction activities would be completed on weekdays during daytime hours when many residents would be away from their homes. In accordance with the Noise Ordinance, a permit would be obtained from the City to allow project construction to be exempt from the noise standards in the ordinance, and construction activities would be prohibited during the hours specified in the ordinance. With adherence to the City's Noise Ordinance, and implementation of measure N-1 below, impacts would be less than significant.

#### **Noise Mitigation Measures:**

To mitigate impacts from noise, the following measures would be implemented during project construction.

#### **N-1 Construction Noise Mitigation Measures**

- During construction, the Contractor shall ensure that all construction equipment, fixed or mobile, are maintained in proper operating condition, and mufflers shall be working adequately.
- During construction, the Contractor shall ensure that all construction equipment is located so that emitted noise is directed away from sensitive noise receptors.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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- During construction, the Contractor shall ensure that stockpiling and vehicle-staging areas are located away from sensitive noise receptors during construction activities, to the extent feasible.
- Two weeks prior to construction, the Contractor shall ensure that notification is provided in writing to residences within 150 feet of the active construction area.
- If warranted, the Contractor shall ensure during construction that temporary noise barriers, including sound blankets, are installed between the areas of active construction and sensitive receptors.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (Sources: 6, 24) ☐ ☐ ☒ ☐

**Discussion:** Groundborne vibration is sound radiating through the ground. The sound that results from groundborne vibration is called groundborne noise. The ground motion that results from groundborne vibration is measured as peak particle velocity (PPV) in inches per second, and groundborne noise is measured as vibration decibels (Vdb). Typical outdoor sources of perceptible groundborne vibration and noise are construction equipment and traffic on rough roads.

The Federal Transit Administration (FTA) uses a PPV of 0.2 inch per second as the vibration damage threshold for fragile buildings and a PPV of 0.12 inch per second for extremely fragile historic buildings. The FTA criterion for infrequent groundborne noise events (fewer than 30 events per day) that may result in annoyance are 80 Vdb for residences and other buildings where people normally sleep.

The project would not result in an increased number of lanes or an increased capacity on the bridge. The project would not result in travel lanes being moved closer to the surrounding residential properties. Therefore, the operational groundborne vibration would not change in or near the project site.

The FTA has published standard vibration level and peak particle velocities for construction equipment operations. The calculated root mean square (RMS) velocity level expressed in Vdb and PPV for construction equipment at distances of 25, 50, and 100 feet are listed below in **Table 7** (Vibration Levels of Construction Equipment).

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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**Table 7: Vibration Levels of Construction Equipment**

Equipment	PPV at 25 ft (in/sec)	RMS at 25 ft (Vdb)	PPV at 50 ft (in/sec)	RMS at 50 ft (Vdb)	PPV at 100 ft (in/sec)	RMS at 100 ft (Vdb)
Loaded Truck	0.0760	86	0.0269	77	0.0095	68
Jackhammer	0.0350	79	0.0124	70	0.0044	61
Small Bulldozer	0.0030	58	0.0011	49	0.0004	40

Source: Federal Transit Administration. 2006. *Transit Noise and Vibration Assessment*. May. Chapter 12

Notes: PPV = peak particle velocity; in/sec = inches/second; RMS = root mean square; Vdb = vibration decibels

As shown in **Table 7**, the groundborne vibration level of construction equipment would be below the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings at a distance of 25 feet from the project site. The buildings near the project site are not fragile historic buildings, and would therefore not be subject to potential damage from project-related groundborne vibration. However, the groundborne noise level of a loaded truck would exceed the FTA criterion of 80 Vdb for infrequent groundborne noise events that may result in annoyance for residences. Sensitive noise receptors (single-family homes) are adjacent to the project site and could potentially be exposed to groundborne noise levels that are above the FTA threshold.

It is expected that groundborne noise from project construction would be intermittent and would be localized near the project site. In addition, with adherence to the City's noise control provisions, which prohibit construction between the hours of 8 p.m. and 7 a.m. from Monday through Saturday, and at any time on Sunday or a federal holiday, impacts would be less than significant.

- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (Source: 3)
- ☐                      ☐                      ☐                      ☒

**Discussion:** The project would not result in an increased number of lanes or increased capacity on the bridge. The project would not result in travel lanes being moved closer to the surrounding residential properties. Therefore, the existing ambient noise would not change in or near the project site, and there would be no impact.

- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (Sources: 6, 23)
- ☐                      ☐                      ☒                      ☐

**Discussion:** The project would result in the generation of noise levels during construction that would exceed levels specified in the City's Noise Ordinance. Chapter 8.40.090 of the City's Municipal Code exempts the proposed construction from the provisions of the code, as long as a City permit is obtained, and construction activities do not take place between the hours of 8 p.m. and 7 a.m. from Monday through Saturday, and at any time on Sunday or a federal holiday. In addition, construction noise would be

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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temporary and intermittent; noise levels would vary depending on the phase of construction and type of equipment used. With adherence to the City's noise control provisions, impacts would be less than significant.

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is approximately 4.65 miles south of the nearest airport, the Los Alamitos Joint Forces Training Base. The project site is not within an airport land use plan or within two miles of a public airport or public use airport; therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is not in the vicinity of a private airstrip; therefore, there would be no impact.

## XI. PUBLIC SERVICES.

*Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:*

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Fire protection? (Source: 3)                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Police protection? (Source: 3)                                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Schools? (Source: 3)  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Parks? (Source: 3)  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Other public facilities or governmental services? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Discussion a) – e):** The project would include rehabilitating and widening the bridge, which is a public facility. For safety purposes, the portion of the channel underneath the bridge may be temporarily closed to recreational and/or emergency boats or vessels during construction; however, the channel would remain accessible from adjacent waterways, and access would be restored following construction. The



ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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project would not result in an increased number of lanes or increased capacity on the bridge. Therefore, the project would not result in population growth that would require the need for additional fire protection services, police protection services, schools, parks, or other public facilities or governmental services. The purpose of the project is to enhance public safety, extending the useful life of the bridge, and prevent environmental damage by performing rehabilitation and widening work on the existing bridge. Therefore, impacts would be less than significant.

## XII. UTILITIES AND SERVICE SYSTEMS.

*Would the project:*

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Implementation of the project would not induce population growth or generate wastewater; therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 effects? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Existing water and sewer lines suspended underneath the bridge deck would be protected in place during construction. Implementation of the project would not induce population growth or result in a need for additional water or wastewater; therefore, there would be no impact.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 effects? (Sources: 3, 37) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Existing storm water drainage facilities on the bridge include curbs and gutters to divert storm water onto adjacent roadways. During construction, storm water drainage would be handled in a manner that complies with standard BMPs and regulatory permits. BMPs that may be considered for the project include, but are not limited to, preservation of existing vegetation, silt fences, street sweeping, storm drain protection, and waste management to avoid the degradation of water quality. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. Operation of the project would not result in substantial increases in impermeable surfaces that would require new or expanded storm water drainage facilities. Therefore, there would be no impact.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Implementation of the project would not induce population growth or require additional water supplies; therefore, there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? (Sources: 1, 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would not require wastewater treatment; therefore, there would be no impact.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? (Sources: 3, 25) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Solid waste generated in the City is transported to the Frank R. Bowerman Landfill in the City of Irvine. The landfill is permitted to receive a maximum of 11,500 tons per day and is anticipated to close in 2053. Solid waste would be generated during the construction phase, which would be accommodated by the existing landfill. Any lead and asbestos containing materials found during demolition would be disposed of at a location approved by Cal-OSHA. Operation of the project would not result in solid waste production. Therefore, impacts would be less than significant.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Comply with federal, state, and local statutes and regulations related to solid waste? (Sources: 3, 25) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would comply with federal, state, and local statutes and regulations related to solid waste, and temporary construction waste would be accommodated by the Frank R. Bowerman Landfill in the City of Irvine; therefore, there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| h) Include a new or retrofitted storm water treatment control Best Management Practice (BMP) (e.g., water quality treatment basin, constructed treatment wetlands)? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** During construction, standard BMPs would be incorporated into the project to comply with regulatory permits. BMPs that may be considered for the project include, but are not limited to,

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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preservation of existing vegetation, silt fences, street sweeping, storm drain protection, and waste management to avoid the degradation of water quality. Specific BMPs would be identified prior to construction during the preparation of the SWPPP. Operation of the project would not require a new or retrofitted storm water treatment control BMP; therefore, there would be no impact.

### XIII. AESTHETICS.

*Would the project:*

- a) Have a substantial adverse effect on a scenic vista? (Sources: 1, 3) ☐ ☐ ☒ ☐

**Discussion:** The project site is in a developed, residential area that includes views of the channel. The City's General Plan states that "Huntington Harbour is a visual asset to those residences which front the channel, although limited access makes this asset somewhat exclusive to residents living or visiting the area." During construction, the project would result in short-term visual impacts on residents with views of the bridge and vehicles driving across the bridge; however, these impacts would be temporary, and the bridge would be restored to its original condition following construction. The project also includes widening the bridge deck by approximately two feet on each side; however, this change is not expected to substantially alter the overall appearance of the bridge. Therefore, impacts would be less than significant.

- b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (Sources: 1, 5, 26) ☐ ☐ ☐ ☒

**Discussion:** According to the Caltrans Scenic Highway Program, the project site is not located within a California scenic highway. The bridge is in an urban setting that does not have natural scenic resources, such as trees or rock outcroppings. There are no historic buildings in or near the project site (see Section XIV. CULTURAL RESOURCES). Therefore, scenic resources would not be damaged, and there would be no impact.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings? (Sources: 1, 3) ☐ ☐ ☒ ☐

**Discussion:** The project site is in a developed, residential area that includes views of the channel. Although the project would include widening the bridge by approximately two feet on each side, this project component is not expected to substantially alter the overall appearance of the bridge. Implementation of the project would not substantially change the visual character or quality of the project site or its surroundings. Therefore, impacts would be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge, and most construction activities would be completed during daytime hours. The temporary traffic signal would be similar to existing signals within Huntington Beach and would be removed after the completion of construction. The project would not include sources of light or glare that would adversely affect day or nighttime views in the area; therefore, there would be no impact.

#### XIV. CULTURAL RESOURCES.

*Would the project:*

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (Sources: 27, 28) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** According to the Caltrans Historical Bridge Inventory (September 2012), the bridge is not eligible for listing in the National Register of Historic Places (NRHP). In addition, according to the NRHP no historic places are located within 0.5 mile of the project site. The listing of California Historic Landmarks was also reviewed, and no historic landmarks are located within 0.5 mile of the project site. Therefore, there would be no impact.

- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Sources: 3, 35, 36) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** See response d), below.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Source: 3) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** See response d), below.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| d) Disturb any human remains, including those interred outside formal cemeteries? (Source: 3) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge. All bridge construction would be entirely within the City's ROW or channel waterway. Minimal sub-surface work down to two feet bgs would be required to install a temporary traffic signal on the roadway.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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The project site is located in Huntington Harbour, five manmade residential islands with a network of channels used for boating. According to the USFWS, construction of Huntington Harbour began in the early 1960s and involved the dredging and filling of more than 850 acres of salt marsh to create the existing channels and islands. The channels were dredged to a depth of approximately 10 to 12 feet and lined with vertical walls. Because the channels and islands were previously dredged and filled, archaeological resources, paleontological resources, unique geologic features, and human remains are not anticipated to be in the project site. Although not anticipated, the discovery of resources is a possibility during any sub-surface work. With the implementation of measure C-1 listed below, impacts would be less than significant.

#### **Cultural Resources Mitigation Measure:**

To mitigate potentially significant impacts on cultural resources, the following measure will be implemented during project construction.

#### **C-1 Assessment of Resources if Found**

If archaeological resources, paleontological resources, or unique geologic features are encountered during construction, the Contractor shall ensure that all ground-disturbing work is stopped until an archaeologist or monitor can properly assess the resources(s) and identify the appropriate measures to ensure that resource(s) would not be adversely affected. If human remains are encountered during construction, all ground-disturbing work will be stopped and standard measures required by California Health and Safety Code Section 7050.5 will be followed to notify the County Coroner and identify the remains.

### **XV. RECREATION.**

*Would the project:*

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Increase the use of existing neighborhood, community, and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would include rehabilitating and widening the bridge, and would not result in an increased use of existing neighborhood and regional parks, or other recreational facilities. Therefore, the project would not result in physical deterioration of these facilities, and there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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**Discussion:** The project would include rehabilitating and widening the bridge, and would not include the construction of new recreational facilities or require the expansion of existing recreational facilities. Therefore, there would be no impact.

- c) Affect existing recreational opportunities? ☐ ☒ ☐ ☐  
(Sources: 1, 3, 6)

**Discussion:** The bridge crosses over the channel, which is used for recreational boating and swimming. The channel is designated on the City's Land Use Map as Open Space for Water Recreation (OS-W). For safety purposes, the portion of the channel underneath the bridge may be temporarily closed to boats and swimmers during construction; however, the channel would remain accessible from adjacent waterways, and access would be restored following construction. Humboldt Beach, a small, sandy beach that provides recreational access to the channel, is adjacent to the east of the project site. During project construction, the beach and would remain accessible, and recreational opportunities would not be impacted.

Construction activities could affect views of the bridge from the beach and the channel, but these impacts would be short-term. With the implementation of measure W-2 listed in Section IV. HYDROLOGY AND WATER QUALITY, the work area would be tented, minimizing views of the work site. Construction activities would intermittently result in increased noise levels in the channel, which could affect recreational users in the area. With adherence to the City's Noise Ordinance, and implementation of measure N-1 listed in Section X. NOISE, impacts would be less than significant.

## XVI. AGRICULTURAL AND FOREST RESOURCES.

*Would the project:*

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (Sources: 3, 29) ☐ ☐ ☐ ☒

**Discussion:** According to the Orange County Important Farmland 2010 Map produced by the California Department of Conservation, there are no farmlands in or adjacent to the project site. Therefore, there would be no impact.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? (Source: 30) ☐ ☐ ☐ ☒

**Discussion:** Land in and near the project site is zoned as RL (Residential Low Density) and OS-WR (Open Space-Water Recreation Subdistrict). There is no land zoned for agricultural use in or adjacent to the project site. Therefore, the project would not conflict with existing zoning for agricultural use.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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Williamson Act contracts are contracts with counties and cities to restrict land use to agricultural and compatible open space uses, for the purpose of discouraging conversion to urban uses. There is no land used for agricultural purposes in or adjacent to the project site; therefore, the project would not conflict with a Williamson Act contract, and there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (Source: 30) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion c) – d):** Land in and near the project site is zoned as RL and OS-WR. There is no land zoned for forest land or timberland in or adjacent to the project site. Therefore, there would be no impact.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Result in the loss of forest land or conversion of forest land to non-forest use? (Source: 30) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** See response c) - d), above.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? (Sources: 3, 29, 30) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** As discussed above, the project site is not within an area designated for or being used for agricultural or forest uses; therefore, there would be no impact.

## XVII. GREENHOUSE GAS EMISSIONS.

*Would the project:*

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Source: 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The SCAQMD has prepared a Draft Guidance Document entitled Interim CEQA Greenhouse Gas Significance Thresholds (October 2008) for evaluating operational and construction impacts of proposed industrial projects, and has adopted an interim threshold of 10,000 tonnes of CO<sub>2</sub>-equivalent per year. (One tonne, or "metric ton," is equivalent to 1,000 kilograms.)

The project would not result in an increased number of lanes or increased capacity on the bridge; therefore, operation of the project would not result in the generation of new sources of GHG emissions.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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Construction-related greenhouse gas (GHG) emissions are typically generated by motorized vehicles used for material transportation or the commute of construction workers. Construction of the project would result in the generation of temporary, short-term emissions of GHG; the amount of emissions generated would vary depending on multiple factors, including the type of equipment used and the length of use. Mobile source emissions from construction equipment are typically highest during use of heavy-duty, diesel-fueled equipment. The CARB has adopted the In-Use Off-Road Diesel Vehicle Regulation, which includes enforceable elements, such as limits on vehicle idling to no more than five consecutive minutes, and equipment reporting and labeling. Construction would be conducted in compliance with these regulations.

The project site would be less than 0.5 acre and construction activities would be completed within approximately eight months. Because the project is small in scale and short-term in duration, the contribution of construction GHG emissions to climate change would not be substantial. CalEEMod estimated the project to generate 24.7 metric tons over the construction period. Therefore, the project would generate less CO<sub>2</sub> than the SCAQMD interim threshold, and impacts would be less than significant.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Sources: 3, 31) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** GHG gas emissions in California are regulated through Assembly Bill (AB) 32, which requires California's GHG emissions to be reduced to 1990 levels by 2020. As discussed above, construction activities for the project would be temporary (eight months), so the contribution of construction GHG emissions to climate change would be minimal. The project would not result in an increased number of through lanes or increased capacity on the bridge; therefore, it would not result in the generation of new sources of GHG emissions.

The project was included in regional transportation plans and associated emissions analyses, including the FTIP and emissions analysis conducted by SCAG for the conforming 2012-2035 RTP/SCS. The project would not conflict with any local or state policies for GHG emissions and impacts. Therefore, impacts would be less than significant.



ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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## XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Does the project 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

**Discussion:** According to the CNDDDB, there are several special-status species with potential to be in the project site, based on geographic distribution; however, they were not observed during the biological surveys, and based on existing habitat, the potential for these species to be in the project site is considered low. Therefore, the project would not be expected to result in impacts on these species. If sensitive wildlife species were to move into the project site during construction, construction activities in the channel could potentially result in direct and/or indirect impacts on these species through habitat disturbance.

The project would result in temporary impacts on approximately 0.01 acre of waters of the U.S. The Huntington Beach Harbour, as well as the adjacent areas of Anaheim Bay, Bolsa Chica Ecological Preserve, and the Seal Beach National Wildlife Refuge, are designated EFH for Pacific groundfish under the PGFMP. EFH could be impacted if construction materials and debris were to fall into the channel.

The bridge structure provides marginal habitat for bats; however, no bats were observed during project surveys and the potential for bats to be in the project area is considered low. The bridge structure and vegetation adjacent to residential properties provide areas where birds could nest; however, no evidence of nests on the bridge was observed during surveys. Project construction could result in impacts on nesting birds or bats if they are in the BSA during construction.

With compliance with regulatory permits, implementation of measures W-1 through W-4 listed in Section IV. HYDROLOGY AND WATER QUALITY, and implementation of measures B-1 through B-6 listed in Section VII. BIOLOGICAL RESOURCES, impacts would be less than significant.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) (Sources: 3, 32, 33)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion:** Because the project is small in scale, the cumulative impact area for the project has been identified as a 1-mile radius from the bridge. Past projects in this cumulative impact area include the construction of existing recreational boating channels and surrounding residential neighborhoods. To determine current and future projects, a list of current planning applications for the City (as of February 18, 2014) was reviewed, and a query of the CEQAnet environmental database was conducted for projects dating from February 2013 through April 2014. Based on this research, the following projects have been included in the cumulative impact analysis:

*City’s Current Planning Applications:*

- 3601 Sagamore Drive, Coastal Development Permit (CDP) 13-010, Submitted to Community Development Department on July 3, 2013: Request to remove the existing sewer lift station and construct a new sewer lift station.
- 16602 Channel Lane, CDP 13-012, Submitted to Community Development Department on July 15, 2013: Request to add a pitched roof and increase height by more than 10 percent in the Coastal Zone.
- 16926 Park Avenue, Conditional Use Permit (CUP) 13-022/CDP 13-014/Environmental Assessment (EA) 13-008, Submitted to Community Development Department on July 23, 2013: Request to establish a marina consisting of a 65-foot dock and a two-story caretaker’s unit.
- City-wide application, Zoning Map Amendment (ZMA) 13-001/Zoning Text Amendment (ZTA) 13-002/EA 13-010, Submitted to Community Development Department on August 14, 2013: Request to create citywide Senior Mobile Home Park Overlay District for 10 mobile home parks.
- City-wide application, CUP 13-029, Submitted to Community Development Department on October 17, 2013: Request to permit a Master CUP for installation of 38 Water Division Data Collection Units (DCU) on 30-foot-tall poles at various City facilities.
- 16375 Ardsley Circle, CUP 13-034/CDP 13-023, Submitted to Community Development Department on December 13, 2013: Request to demolish a 2-story, 2,879-square-foot house and build a new 3-story, 4,985-square-foot house and 808-square-foot garage.

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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- 16001 Bolsa Chica Street, CUP 13-036, Submitted to Community Development Department on December 18, 2013: Request to permit development of a 3,500-square-foot building for a convenience store, restaurant, outdoor dining, and alcohol.
- 3916 Montego Drive, CDP 14-002, Submitted to Community Development Department on January 13, 2014: Request to permit a 33-square-foot 1<sup>st</sup> floor addition and convert 33 square feet of attic space into a loft and bathroom.
- 16052 Bonaire Circle, CDP 14-003, Submitted to Community Development Department on January 13, 2014: Request to permit a 33-square-foot 1<sup>st</sup> floor addition and convert 588 square feet of attic space into a loft and bathroom.
- 16541 Channel Lane, CUP 14-004/CDP 14-004, Submitted to Community Development Department on January 22, 2014: Request to construct a 3-story single family dwelling (SFD) with 5,357 square feet of living area and a 3-car attached garage.
- 3351 Bounty Circle, CDP 14-005, Submitted to Community Development Department on February 4, 2014: Request to convert 360 square feet of unpermitted mezzanine into habitable space in an existing single family residence (SFR).

*Projects Submitted to the State Clearinghouse for Review:*

- Warner Avenue Sewer Lift Station Project, State Clearing House (SCH) No. 2012071063, Notice of Determination (NOD), Received by the State Clearinghouse on May 3, 2012: Construct two sewer laterals and replace an existing sewer force main with a new sewer force main; abandonment of existing sewer pipelines, sewer manholes, and a sewer lift station.
- Edinger Avenue and Countess Drive, Edinger Avenue Bridge over Bolsa Chica Channel Replacement Project, SCH No. 2013031077, NOD, Received by SCH on July 31, 2013: Replace the existing structurally deficient and seismically vulnerable timber bridge with a new bridge in the same location.
- Bolsa Chica Road/Edinger Avenue, Sunset Gap Monitoring Wells Project, SCH No. 2013061039, NOD, Received by the SCH on October 4, 2013: Construction and operation of six below-ground monitoring wells and the destruction of three existing monitoring wells in the City.
- City-wide application, Senior Residential (-SR) Overlay District for Mobile home Parks, SCH No. 2013111044, NOD, Received by SCH on March 10, 2014: Amend the City's Zoning and Subdivision Ordinance to establish a Senior Residential (-SR) Overlay zoning district for mobile home parks.

Along with the planned projects and other potential projects in the cumulative impact area, the project would have the potential to contribute to cumulative impacts. With the implementation of standard BMPs, compliance with regulatory permits, and implementation of mitigation measures (see **Attachment 2**, Summary of Mitigation Measures), project impacts would be less than significant. Therefore, when

ISSUES (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
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viewed in connection with other planned projects, the project's contribution to cumulative impacts would be less than cumulatively considerable.

- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?<br>(Source: 3) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

The project would include rehabilitating and widening the bridge. All bridge construction activities would be entirely within the City's ROW or channel waterway, and the location and design of the existing bridge would be maintained. With the implementation of standard BMPs, compliance with regulatory permits, and implementation of mitigation measures (see **Attachment 2**, Summary of Mitigation Measures), neither construction nor operation of the project would result in substantial adverse impacts on human beings, either directly or indirectly, and impacts would be less than significant.

## **XIX. EARLIER ANALYSIS/SOURCE LIST.**

Earlier analyses may be used where, pursuant to the tiering, a program EIR, or other CEQA process, one or more impacts have been adequately analyzed in an earlier EIR or negative declaration (*CEQA Guidelines, Section 15063 (c)(3)(D)*).

Earlier documents prepared and utilized in this analysis, as well as sources of information, are as follows:

<b><u>Reference #</u></b>	<b><u>Document Title</u></b>	<b><u>Available for Review At:</u></b>
1	City of Huntington Beach General Plan	City of Huntington Beach Planning and Building Dept. 2000 Main Street, Huntington Beach, CA and at <a href="http://www.huntingtonbeachca.gov/government/departments/planning/gp/index.cfm">http://www.huntingtonbeachca.gov/government/departments/planning/gp/index.cfm</a>
2	City of Huntington Beach Zoning and Subdivision Ordinance	City of Huntington Beach City Clerk's Office, 2000 Main Street, Huntington Beach, CA and at <a href="http://www.huntingtonbeachca.gov/Government/Elected_Officials/city_clerk/Zoning_Code/index.cfm?cross=tur&amp;department=planning&amp;sub=zoning&amp;page=">http://www.huntingtonbeachca.gov/Government/Elected_Officials/city_clerk/Zoning_Code/index.cfm?cross=tur&amp;department=planning&amp;sub=zoning&amp;page=</a>
3	Project Plans	See Attachment 1
4	Alquist-Priolo Earthquake Fault Zoning Map, Seal Beach Quadrangle, Effective July 1, 1986, California Department of Conservation	<a href="http://gmw.consrv.ca.gov/shmp/download/ap/pdf/SEALBCH.PDF">http://gmw.consrv.ca.gov/shmp/download/ap/pdf/SEALBCH.PDF</a>
5	Site Visit Observations, GPA Consulting, January 14, 2013	N/A
6	City of Huntington Beach Municipal Code	City of Huntington Beach City Clerk's Office, 2000 Main Street, Huntington Beach, CA and at <a href="http://www.huntingtonbeachca.gov/government/elected_officials/city_clerk/municipal_code/">http://www.huntingtonbeachca.gov/government/elected_officials/city_clerk/municipal_code/</a>
7	FEMA FIRM for Orange County, Map Number 06059C0231, Revised December 3, 2009	FEMA Map Service Center: <a href="https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&amp;catalogId=10001&amp;langId=-1">https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&amp;catalogId=10001&amp;langId=-1</a>
8	Tsunami Inundation Map, Los Alamitos	<a href="http://www.conservation.ca.gov/cgs/geologic_">http://www.conservation.ca.gov/cgs/geologic_</a>

	Quadrangle, Seal Beach Quadrangle, March 1, 2009, California Emergency Management Agency, California Geological Survey, University of Southern California	hazards/Tsunami/Inundation_Maps/LosAngeles/Documents/Tsunami_Inundation_LosAngelesSealBeach_Quads_LosAngeles.pdf
9	Ambient Air Quality Standards, June 14, 2013, CARB	<a href="http://www.arb.ca.gov/research/aaqs/aaqs2.pdf">http://www.arb.ca.gov/research/aaqs/aaqs2.pdf</a>
10	Final 2012 Lead State Implementation Plan, SCAQMD	<a href="http://www.aqmd.gov/hb/attachments/2011-2015/2012May/2012-May4-030.pdf">http://www.aqmd.gov/hb/attachments/2011-2015/2012May/2012-May4-030.pdf</a>
11	2012 State Area Designations, April 1, 2013, CARB	<a href="http://www.arb.ca.gov/design/adm/adm.htm">http://www.arb.ca.gov/design/adm/adm.htm</a>
12	Green Book Nonattainment Areas for Criteria Pollutants Webpage, 2013, U.S. EPA	<a href="http://www.epa.gov/oaqps001/greenbk/index.html">http://www.epa.gov/oaqps001/greenbk/index.html</a>
13	Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Adopted July 22, 2004, 13 California Code of Regulations (CCR) Section 2485, CARB	<a href="http://www.arb.ca.gov/msprog/truck-idling/2485.pdf">http://www.arb.ca.gov/msprog/truck-idling/2485.pdf</a>
14	Rule 403, Fugitive Dust, Last Amended June 3, 2005, SCAQMD	<a href="http://www.aqmd.gov/rules/reg/reg04/r403.pdf">http://www.aqmd.gov/rules/reg/reg04/r403.pdf</a>
15	Final 2012 AQMP, February 2013, SCAQMD	<a href="http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan">http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan</a>
16	2012-2035 RTP/SCS, Project List (Page 68), Adopted April 4, 2012, SCAG	<a href="http://rtpscs.scag.ca.gov/Documents/2012/final/SR/2012fRTP_ProjectList.pdf">http://rtpscs.scag.ca.gov/Documents/2012/final/SR/2012fRTP_ProjectList.pdf</a>
17	Final 2013 FTIP, Adopted September 19, 2012, Orange County, Local Highways Project Listing (Page 6), SCAG	<a href="http://www.scag.ca.gov/ftip/pdf/final/2013/F2013-FTIP-LocalORA.pdf">http://www.scag.ca.gov/ftip/pdf/final/2013/F2013-FTIP-LocalORA.pdf</a>
18	Bikeways Map, March 2012, City of Huntington Beach Information Services Department	<a href="http://www.huntingtonbeachca.gov/about/maps/CityBikeways.pdf">http://www.huntingtonbeachca.gov/about/maps/CityBikeways.pdf</a>
19	Bus System Map, Effective October 14, 2012, Orange County Transportation Authority (OCTA)	<a href="http://www.octa.net/pdf/sysmapoct12.pdf">http://www.octa.net/pdf/sysmapoct12.pdf</a>
20	2011 Orange County CMP, OCTA	<a href="http://www.octa.net/pdf/2011-CMP.pdf">http://www.octa.net/pdf/2011-CMP.pdf</a>
21	DOGGR Online Mapping System, California	<a href="http://maps.conservation.ca.gov/doms/doms-">http://maps.conservation.ca.gov/doms/doms-</a>

	Department of Conservation	app.html
22	DTSC Envirostor Website	<a href="http://www.envirostor.dtsc.ca.gov/public/">http://www.envirostor.dtsc.ca.gov/public/</a>
23	Construction Noise Handbook, Chapter 9.0 Construction Equipment Noise Levels and Ranges, Updated July 5, 201, U.S. Department of Transportation, Federal Highway Administration	<a href="http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm">http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm</a>
24	Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, Federal Transit Administration	<a href="http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf">http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf</a>
25	OC Waste & Recycling, Frank R. Bowerman Landfill	<a href="http://oclandfills.com/landfill/active/bowerman">http://oclandfills.com/landfill/active/bowerman</a>
26	Caltrans Scenic Highway Program	<a href="http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm">http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm</a>
27	Caltrans Historical Bridge Inventory, Local Agency Bridges, September 2012	<a href="http://www.dot.ca.gov/hq/structur/strmaint/hs_local.pdf">http://www.dot.ca.gov/hq/structur/strmaint/hs_local.pdf</a>
28	National Register of Historic Places, Database Search	<a href="http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome">http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome</a>
29	2010 Orange County Important Farmland Map, Published August 2011, California Department of Conservation	<a href="ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/ora10.pdf">ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/ora10.pdf</a>
30	City of Huntington Beach Zoning Map, 2014, Information Services Department	<a href="http://www.huntingtonbeachca.gov/about/maps/zoning.pdf">http://www.huntingtonbeachca.gov/about/maps/zoning.pdf</a>
31	Assembly Bill 32: Global Warming Solutions Act	<a href="http://www.arb.ca.gov/cc/ab32/ab32.htm">http://www.arb.ca.gov/cc/ab32/ab32.htm</a>
32	City of Huntington Beach Current Planning Applications, Updated February 18, 2014, City of Huntington Beach Community Development Department	<a href="http://www.huntingtonbeachca.gov/announcements/attachments/App_Log_Feb_2014.pdf">http://www.huntingtonbeachca.gov/announcements/attachments/App_Log_Feb_2014.pdf</a>
33	CEQAnet Database	<a href="http://www.ceqanet.ca.gov/QueryForm.asp">http://www.ceqanet.ca.gov/QueryForm.asp</a>
34	A Habitat Analysis of the Nearshore Marine Fishes from Southern California	Allen, L.G. 1985. Bulletin of the Southern California Academy of Sciences, 84(3): 133-155

- |    |   |   |
|----|---|---|
| 35 | Seal Beach National Wildlife Refuge Draft Comprehensive Conservation Plan/Environmental Assessment, March 2011, USFWS   | <a href="http://www.fws.gov/sandiegorefuges/new/ccp3/pdf/Public%20Review%20Chapters%201%20-%207%20Web.pdf">http://www.fws.gov/sandiegorefuges/new/ccp3/pdf/Public%20Review%20Chapters%201%20-%207%20Web.pdf</a>   |
| 36 | A Quantitative Study of the Benthic Polychaetous Annelids of Anaheim Bay and Huntington Harbour, California, 2011, Kauwling, Thomas J and Reish, Donald J, California State University Long Beach, California | <a href="http://content.cdlib.org/view?docId=kt6n39n885&amp;doc.view=content&amp;chunk.id=d0e2253&amp;to.c.depth=1&amp;brand=calisphere&amp;anchor.id=0">http://content.cdlib.org/view?docId=kt6n39n885&amp;doc.view=content&amp;chunk.id=d0e2253&amp;to.c.depth=1&amp;brand=calisphere&amp;anchor.id=0</a> |
| 37 | Humboldt Drive Bridge Rehabilitation Water Quality Technical Memorandum   | W.G. Zimmerman Engineering, Inc. October 2013.  |
| 38 | What is a Seiche?, National Oceanic and Atmospheric Administration  | <a href="http://oceanservice.noaa.gov/facts/seiche.html">http://oceanservice.noaa.gov/facts/seiche.html</a>   |
| 39 | Humboldt Drive Bridge over Short Channel, Natural Environment Study, GPA Consulting, July 2015  | City of Huntington Beach Planning and Building Dept.<br>2000 Main Street,<br>Huntington Beach, CA and at<br><a href="http://www.huntingtonbeachca.gov/government/departments/planning/gp/index.cfm">http://www.huntingtonbeachca.gov/government/departments/planning/gp/index.cfm</a>                       |



# **Attachment 1**

## **Project Plans**



CITY OF HUNTINGTON BEACH  
DEPARTMENT OF PUBLIC WORKS  
HUMBOLDT DRIVE HIGHWAY BRIDGE REHABILITATION  
(OVER SHORT CHANNEL)

GENERAL NOTES:

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE BASED ON A SEARCH OF THE AVAILABLE RECORDS. UTILITY SURFACE FEATURES ARE BASED ON FIELD OBSERVATION. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITY LINES, SHOWN OR NOT SHOWN ON THESE PLANS.
2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COMPLETE AND SUBMIT TO THE AGENCY THE UNDERGROUND SERVICE ALERT IDENTIFICATION FORM WHICH HAS BEEN PROVIDED IN THE PROJECT SPECIFICATIONS.
3. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AGENCY'S STANDARD PLANS, PROJECT PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THIS INFORMATION ON THE JOB SITE.
4. A PRE-CONSTRUCTION MEETING SHALL BE HELD A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCING OF WORK.
5. THE CONTRACTOR SHALL NOTIFY THE AGENCY'S CONSTRUCTION MANAGER, ERIC CHARLONNE, @ (714) 536-5430, A MINIMUM OF 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND 48 HOURS IN ADVANCE FOR PROJECT INSPECTION. SURVEY STAKING SHALL BE PROVIDED BY THE CONTRACTOR.
6. PROJECT STATIONING REFERS TO THE CENTERLINE OF STREET.
7. STOCKPILING OF REMOVAL MATERIAL WILL NOT BE ALLOWED IN OR AROUND THE PROJECT SITE OR PUBLIC RIGHT OF WAY.
8. DOORKNOB NOTIFICATION OF RESIDENTS AND BUSINESS OWNERS DIRECTLY AFFECTED BY CONSTRUCTION AND THE POSTING OF "NO PARKING" NOTIFICATION SIGNS SHALL OCCUR A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
9. PUBLIC AND/OR PRIVATE IMPROVEMENTS TO BE PROTECTED IN PLACE ARE NOT LIMITED TO THOSE SPECIFICALLY CALLED OUT ON THE PLANS. ALL EXISTING IMPROVEMENTS WHICH ARE NOT IDENTIFIED FOR REMOVAL AND/OR RECONSTRUCTION ON THE PLANS AND/OR SPECIFICATIONS SHALL BE PROTECTED IN PLACE AT THE CONTRACTOR'S EXPENSE PER SECTION 7-9 OF THE SPECIFICATIONS.
10. PRIOR TO THE END OF EACH WORKING DAY, THE CONTRACTOR SHALL CONSTRUCT THE A.C. BASE COURSE SECTION REQUIRED WITHIN EACH AREA OF PAVEMENT EXCAVATED DURING THAT WORKING DAY. UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER, TRAVEL LANES SHALL BE OPEN TO TRAFFIC AT THE END OF EACH WORKING DAY PER SECTION 6-7.2 AND 7-10.3 OF THE SPECIFICATIONS.

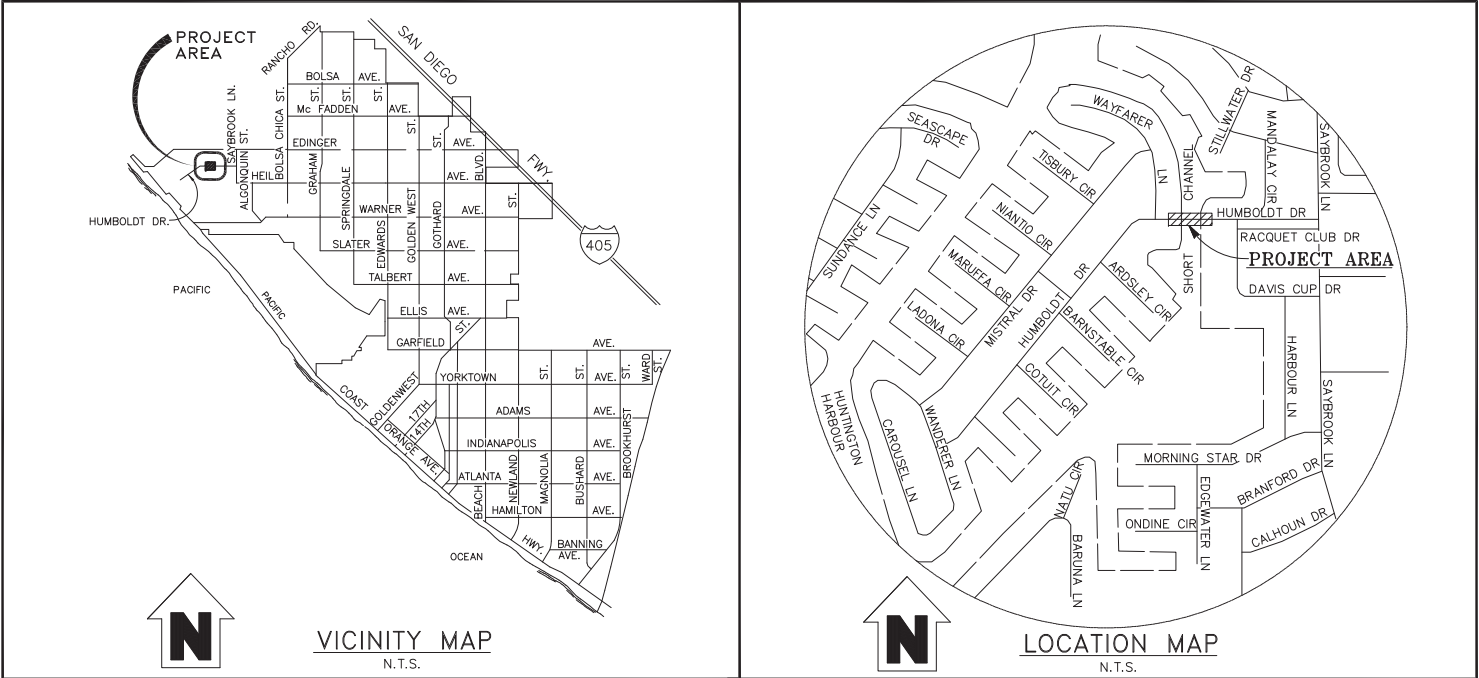
NPDES GENERAL NOTES:

1. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS AS REQUIRED BY THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
2. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND AS REQUIRED BY THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
3. APPROPRIATE BMPs FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTY BY WIND OR RUNOFF AS REQUIRED BY THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
4. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES AND MUST NOT BE DISCHARGED TO RECEIVING WATERS OR TO THE LOCAL STORM DRAIN SYSTEM.
5. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
6. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS.
7. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIALS OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT OR THE STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT.
8. POTENTIAL POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS, WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDE, HERBICIDE, FERTILIZERS, WOOD PRESERVATIVES AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; CONCRETE, AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE, / EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER-CHLORINATED POTABLE WATER FROM LINE FLUSHINGS AND TESTING.
9. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED, TEMPORARY AREA ON-SITE AND PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
10. DISCHARGING CONTAMINATED GROUNDWATER, PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO THE CONSTRUCTION SITE IS PROHIBITED. DISCHARGING OF CONTAMINATED SOILS VIA SURFACE EROSION IS ALSO PROHIBITED. DISCHARGING NON-CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING ACTIVITIES REQUIRES A NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
11. NOTICE: ALL CONTRACTORS AND CONSTRUCTION PERSONNEL SHALL MEET THE REGULATORY CONSTRUCTION REQUIREMENTS ON THE PROJECT SITE, AS SHOWN IN THE LATEST EDITION OF "THE ORANGE COUNTY STORMWATER PROGRAM "CONSTRUCTION RUNOFF GUIDANCE MANUAL."

BRIDGE No. 55C-0284  
BRLO-5181(175)  
C.C. No. 1356

APPROVED: TRAVIS K. HOPKINS, P.E.  
DIRECTOR OF PUBLIC WORKS

DATE



SHEET INDEX		
SHEET NO.	DRAWING NO.	DESCRIPTION
1	T1	TITLE SHEET
2	T2	SITE PLAN
3	C1	CIVIL PLAN
4	TC1	TRAFFIC CONTROL PLAN 1
5	TC2	TRAFFIC CONTROL PLAN 2
6	S1	GENERAL PLAN No. 1
7	S2	GENERAL PLAN No. 2
8	S3	FOUNDATION PLAN

NOTICE TO THE CONTRACTOR





CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

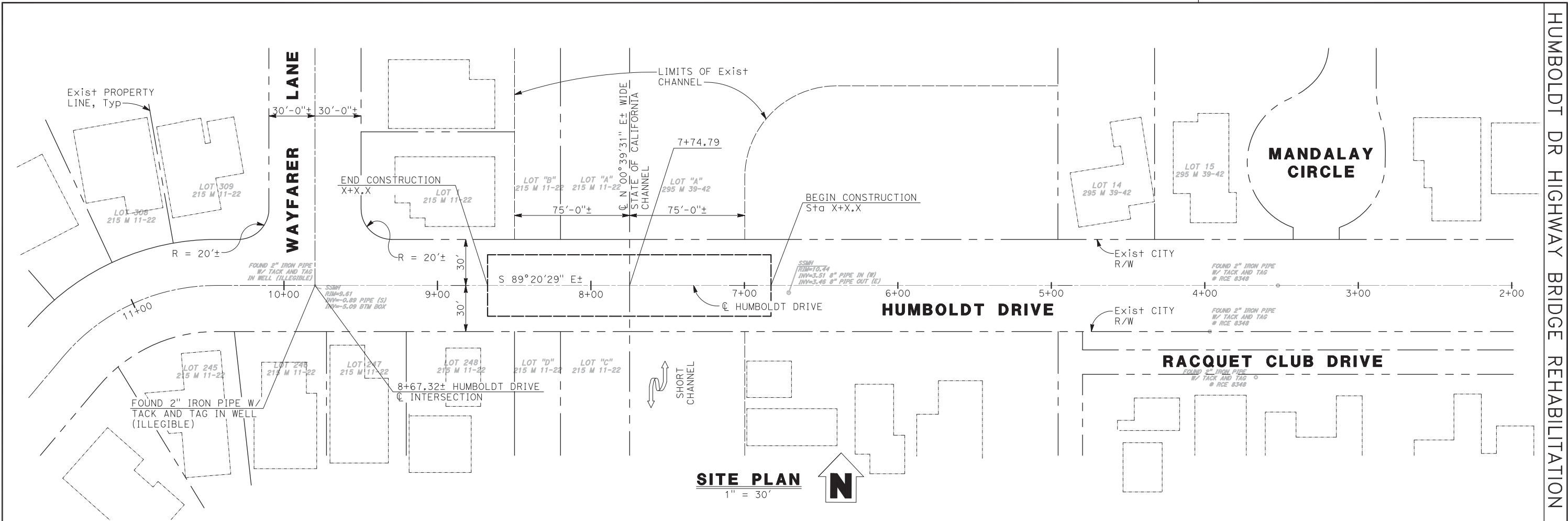
BID ITEM

1. MOBILIZATION
2. CONSTRUCTION SCHEDULE
3. WORK SITE MAINTENANCE
4. MAINTAINING CHANNEL FLOW
5. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
6. WATER POLLUTION CONTROL AND BEST MANAGEMENT PRACTICES (BMPs)
7. TRAFFIC CONTROL SYSTEM
8. SAWCUT AND REMOVE CURB AND GUTTER
9. CONSTRUCT VARIABLE 6" CURB AND 2' GUTTER
10. SAWCUT AND REMOVE PCC SIDEWALK
11. CONSTRUCT 4" PCC SIDEWALK
12. SAWCUT AND REMOVE AC PAVEMENT AND BASE
13. CONSTRUCT 3" AC ON 6" CMB
14. RELOCATE EDISON ELECTRIC PANEL AND CABINET
15. RELOCATE PUMP STATION METER PANEL AND CABINET
16. RELOCATE PUMP STATION AIR EXHAUST VENT
17. RELOCATE PUMP STATION AIR INTAKE VENT
18. RELOCATE EDISON PULL CAN
19. RELOCATE WATER METER AND BOX
20. ADJUST SEWER MANHOLE COVER TO GRADE
21. RELOCATE PUMP STATION EMERGENCY DISCHARGE BOX
22. RELOCATE UTILITY BOX TO GRADE
23. LANDSCAPE AND IRRIGATION
24. REMOVE UNSOUND CONCRETE
25. BRIDGE REMOVAL (PORTION)
26. STRUCTURAL CONCRETE, BRIDGE
27. ARCHITECTURAL SURFACE (STONE FACING)
28. PORTLAND CEMENT CONCRETE PATCH
29. JOINT SEAL (MR 1/2")
30. REPLACE BEARING
31. BAR REINFORCING STEEL (BRIDGE)
32. FURNISH STRUCTURAL STEEL (BRIDGE)
33. ERECT STRUCTURAL STEEL (BRIDGE)
34. CLEAN AND PAINT STRUCTURAL STEEL (EXISTING BRIDGE)
35. TUBULAR HANDRAILING (MODIFIED)
36. CONCRETE BARRIER (TYPE 26)
37. TEMPORARY SIDEWALK STRUCTURE

QUANTITY

PLAN CHECK SET/NOT FOR CONSTRUCTION (4/1/13)

<b>Underground Service Alert</b>  CALL BEFORE YOU DIG TWO WORKING DAYS BEFORE YOU DIG	<b>REVISIONS</b> <table><thead><tr><th>REV.</th><th>DATE</th><th>BY</th><th>DESCRIPTION</th><th>APP'VD</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>	REV.	DATE	BY	DESCRIPTION	APP'VD																										<b>REFERENCES</b> <table><tbody><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>																			<b>BIOS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 600 So. Main St. Suite 200 Orange, California 92668 714-550-4665  DRAWN BY: DM 3/26/2013 DESIGNED BY: RBS 3/26/2013 CHECKED BY:	PREPARED UNDER THE SUPERVISION OF: Michael A. Thomas PRINCIPAL S.E. DATE R.S.E. NO.: S4676 EXP. DATE: 9/30/14 APPROVED BY: M. Todd Broussard, PRINCIPAL C.E. DATE R.C.E. NO.: C57144 EXP. DATE: 12/31/13 	CITY ENGINEER: Antonio Olmos, P.E. DATE R.C.E. NO.: C56814 EXP. DATE: 06/30/13  CITY OF HUNTINGTON BEACH DEPARTMENT OF PUBLIC WORKS	<b>TITLE SHEET</b> <b>HUMBOLDT DR HIGHWAY BRIDGE REHABILITATION</b> (OVER SHORT CHANNEL) STA. X+X.X TO STA. X+X.X	<b>SHEET NO.</b> 1 OF 8 <b>T1</b>
REV.	DATE	BY	DESCRIPTION	APP'VD																																																			



**SITE PLAN**  
1" = 30'

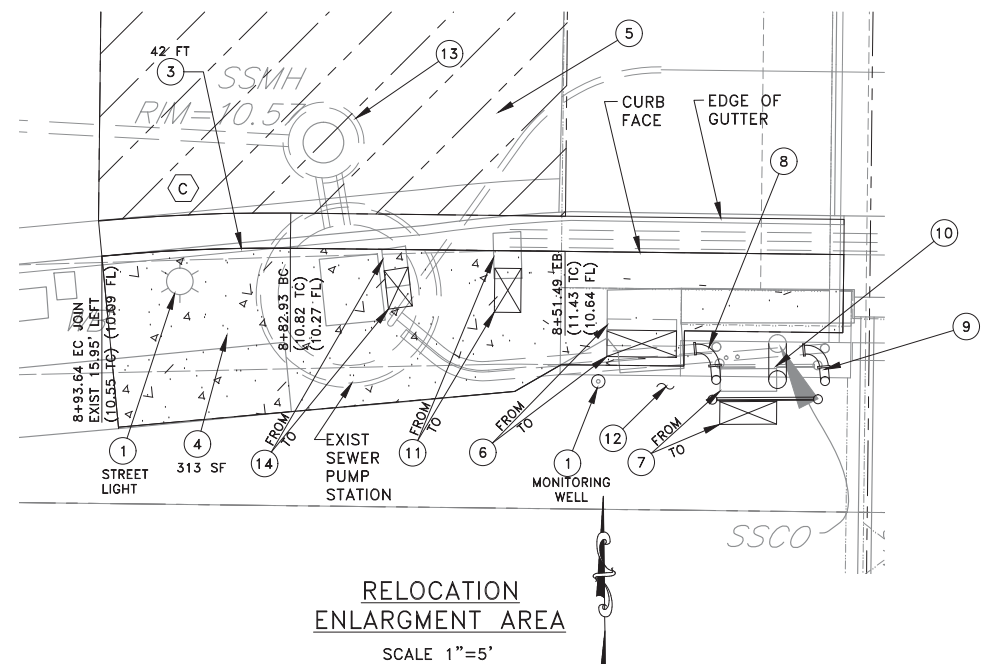
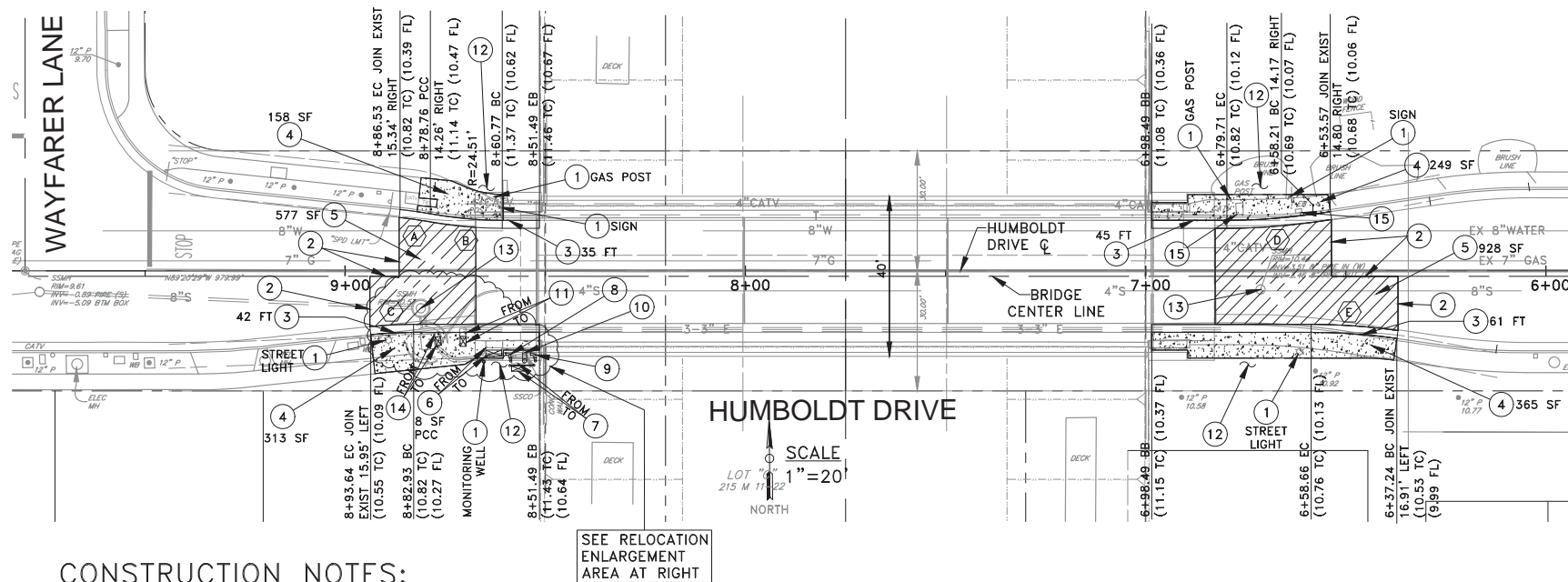
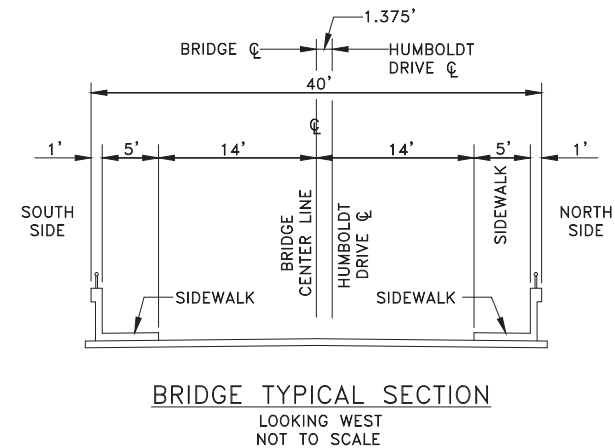
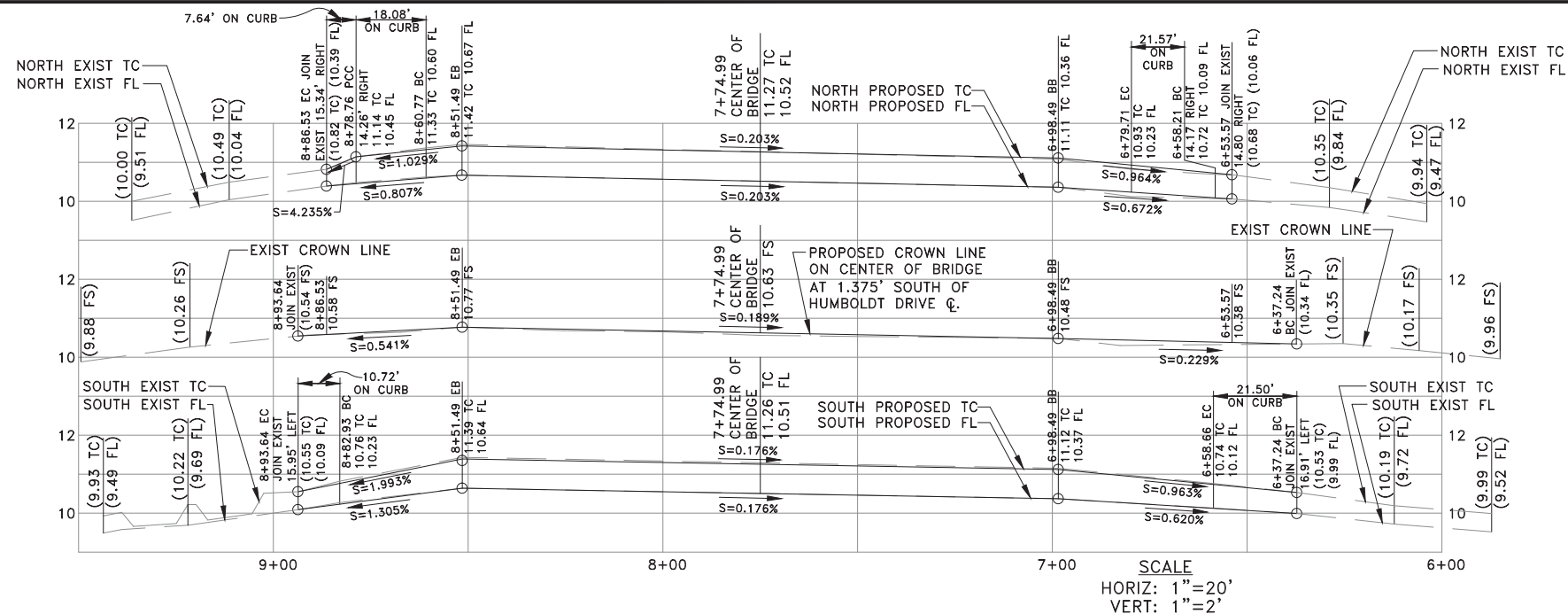
**BENCHMARKS AND BASIS OF BEARINGS:**

HORIZONTAL CONTROL:  
THE HORIZONTAL COORDINATES OF THIS SURVEY ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, 1983 NAD, (1991.35 EPOCH OCS GPS ADJUSTMENT).  
THE BEARING BETWEEN O.C.S., HORIZONTAL CONTROL STATION GPS NO. 5101 & CONTROL STATION GPS NO. 5102R1, BEING N89°25'25"W PER O.C.S., HORIZONTAL CONTROL DATA SHEET ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.

VERTICAL CONTROL:  
POINT NO. HB-240-75  
FOUND 3/4" ALUMINUM DISK  
ELEVATION = 9.707' (NAVD 88)

PLAN CHECK SET/NOT FOR CONSTRUCTION (4/1/13)

 Underground Service Alert Call: 811 TWO WORKING DAYS BEFORE YOU DIG	<b>REVISIONS</b>	<b>REFERENCES</b>	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 600 So. Main St. Suite 200 Orange, California 92668 714-550-4665 	PREPARED UNDER THE SUPERVISION OF: Michael A. Thomas PRINCIPAL S.E. DATE R.S.E. NO.: <b>S4676</b> EXP. DATE: <b>9/30/14</b> APPROVED BY: M. Todd Broussard, PRINCIPAL C.E. DATE R.C.E. NO.: <b>C57144</b> EXP. DATE: <b>12/31/13</b>	 	<b>SITE PLAN</b> <b>HUMBOLDT DR HIGHWAY BRIDGE REHABILITATION</b> (OVER SHORT CHANNEL) STA. X+X.X TO STA. X+X.X	SHEET NO. 2 OF 8 T2



CONSTRUCTION NOTES:

- ① PROTECT IN PLACE.
- ② SAWCUT.
- ③ SAWCUT AND REMOVE EXIST VARIABLE 6" TO 10" CURB AND GUTTER AND CONSTRUCT VARIABLE 6" TO 10" CURB AND 2' GUTTER (A2) PER SSPWC STD PLAN 120-2.
- ④ SAWCUT AND REMOVE EXIST 4" PCC SIDEWALK AND CONSTRUCT 4" PCC SIDEWALK.
- ⑤ REMOVE EXIST AC AND BASE AND CONSTRUCT 3" AC PG 64-16 ON 6" CMB ON 6" SCARIFIED SUBGRADE COMPACTED TO 95%. APPLY SS-1h TACK COAT ON ALL AC PAVING JOINS.
- ⑥ RELOCATE EXIST EDISON ELECTRIC PANEL AND CABINET 0.62' SOUTH OF EXIST LOCATION.
- ⑦ RELOCATE EXIST SEWER PUMP STATION ELECTRIC METER PANEL AND CABINET 2.50' SOUTH OF EXIST LOCATION.
- ⑧ RELOCATE EXIST 6" SEWER PUMP STATION AIR EXHAUST VENT 2.50' SOUTH OF EXIST LOCATION PER DETAIL NO. XX ON DETAIL SHEET C2.
- ⑨ RELOCATE EXIST 6" SEWER PUMP STATION AIR INTAKE VENT 2.50' SOUTH OF EXIST LOCATION PER DETAIL NO. XX ON DETAIL SHEET C2.
- ⑩ RELOCATE EXIST EDISON PULL CAN 2.50' SUTH OF EXIST LOCATION.
- ⑪ RELOCATE EXIST WATER METER AND BOX SOUTH TO BE 1.00' CLEAR OF CURB FACE.
- ⑫ REMOVE AND REPLANT EXIST LANDSCAPING IN KIND AND RELOCATE, REPAIR, OR REPLACE EXIST IRRIGATION SYSTEM IN KIND.
- ⑬ ADJUST SEWER MANHOLE COVER TO GRADE.
- ⑭ RELOCATE EXIST SEWER PUMP STATION EMERGENCY DISCHARGE BOX TO BE 1.00' CLEAR OF CURB FACE.
- ⑮ RELOCATE EXIST UTILITY BOX TO GRADE.

GENERAL NOTES:

1. ALL UTILITY BOXES, FRAMES, AND COVERS WITHIN PROJECT RECONSTRUCTION OR NEW CONSTRUCTION AREAS SHALL BE SET TO GRADE.

LEGEND




AC = ASPHALT CONCRETE  
DK = DECK  
EG = EDGE OF GUTTER  
EX = EXISTING  
EXIST = EXISTING  
FL = FLOW LINE  
L = LENGTH  
PCC = PORTLAND CEMENT CONCRETE  
RHMA = RUBBER HOT MIX ASPHALT  
SSPWC = STANDARD SPECIFICATIONS  
FOR PUBLIC WORKS CONSTRUCTION  
TC = TOP OF CURB  
(10.52) = EXISTING ELEVATION

CURB CURVE DATA				
NO.	$\Delta$	R	L	T
A	N 4°22'39" W	100.00'	7.64'	3.82'
B	N 10°21'33" W	100.00'	18.08'	9.06'
C	N 6°08'32" W	100.00'	10.72'	5.37'
D	N 8°14'21" W	150.00'	21.57'	10.80'
E	N 8°12'45" W	150.00'	21.50'	10.77'

## BASIS OF BEARINGS

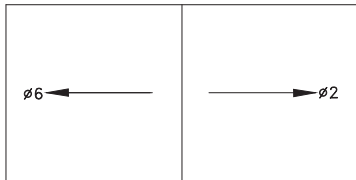
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BENCH MARK  
POINT NO. HB-240-75  
FOUND 3¾" ALUMINUM DISK  
ELEVATION = 9.707' (NAVD 88)

 <p>Underground Service Alert</p> <p>Call: <b>811</b></p> <p>TWO WORKING DAYS BEFORE YOU DIG</p>	<p><b>REVISIONS</b></p> <table border="1"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV.	DATE	BY	DESCRIPTION	APP'D																																																			<p><b>REFERENCES</b></p> <p>W.G.ZIMMERMAN ENGINEERING, INC. 5772 BOLSA AVE SUITE 200 HUNTINGTON BEACH, CA 92649 TEL: (714) 799 1700 FAX: (714) 799 1701</p> <table border="1"> <tr> <td>DRAWN BY:</td> <td>RC</td> <td>3/26/2013</td> </tr> <tr> <td>DESIGNED BY:</td> <td>RB</td> <td>3/26/2013</td> </tr> <tr> <td>CHECKED BY:</td> <td>BZ</td> <td>3/26/2013</td> </tr> </table>	DRAWN BY:	RC	3/26/2013	DESIGNED BY:	RB	3/26/2013	CHECKED BY:	BZ	3/26/2013	<p>PREPARED UNDER THE SUPERVISION OF:</p> <p>WILLIAM G. ZIMMERMAN, P.E. DATE R.C.E. NO.: C48667 EXP. DATE: 6/30/2014</p> <p>APPROVED BY:</p> <p>M. Todd Broussard PRINCIPAL C.E. DATE R.C.E. NO.: C57144 EXP. DATE: 12/31/13</p>			<p>CIVIL PLAN</p> <p><b>HUMBLDT DR HIGHWAY BRIDGE REHABILITATION</b></p> <p>(OVER SHORT CHANNEL)</p> <p>STA. X+XX.XX TO STA. X+XX.XX</p>	<p>SHEET NO. <b>3</b></p> <p>OF <b>8</b></p> <p><b>C1</b></p>
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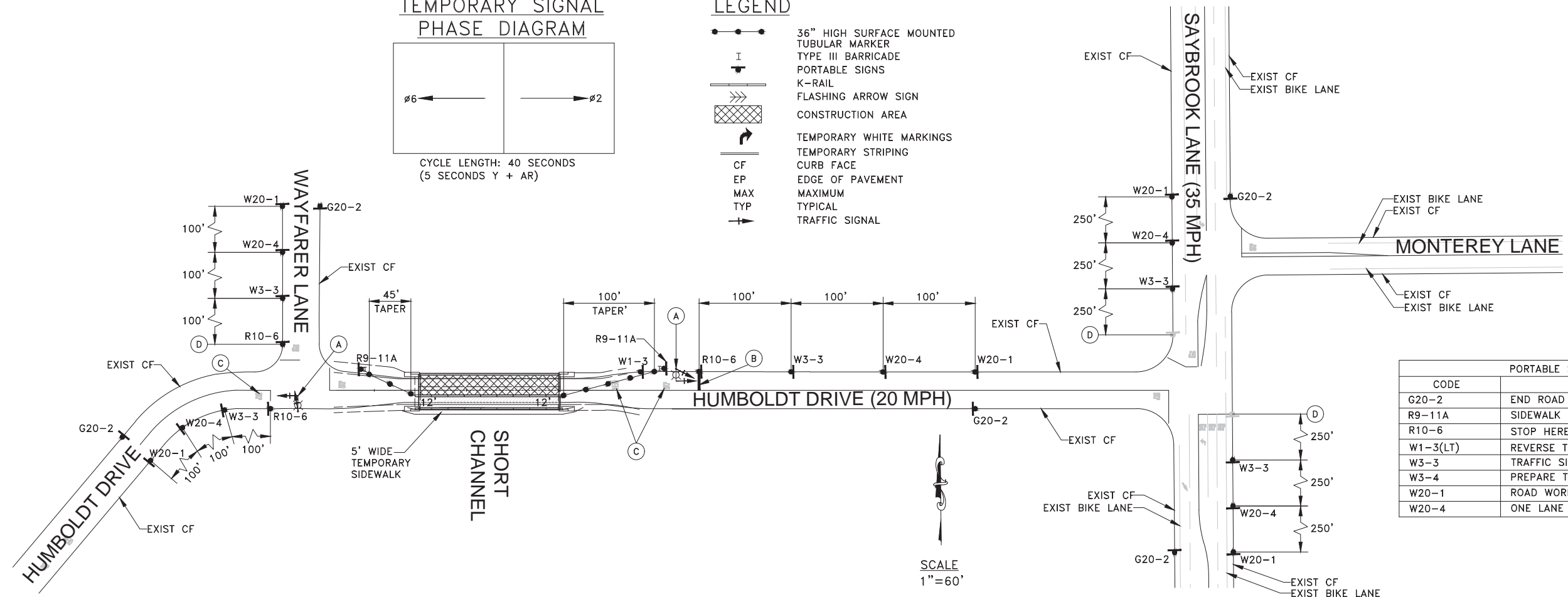
TEMPORARY SIGNAL  
PHASE DIAGRAM



CYCLE LENGTH: 40 SECONDS  
(5 SECONDS Y + AR)

LEGEND

- 36" HIGH SURFACE MOUNTED TUBULAR MARKER
- TYPE III BARRICADE
- PORTABLE SIGNS
- K-RAIL
- FLASHING ARROW SIGN
- CONSTRUCTION AREA
- TEMPORARY WHITE MARKINGS
- TEMPORARY STRIPING
- CURB FACE
- EDGE OF PAVEMENT
- MAXIMUM
- TYPICAL
- TRAFFIC SIGNAL



PORTABLE SIGN INDEX	
CODE	MESSAGE
G20-2	END ROAD WORK
R9-11A	SIDEWALK CLOSED CROSS HERE
R10-6	STOP HERE ON RED
W1-3(LT)	REVERSE TURN
W3-3	TRAFFIC SIGNAL HEAD
W3-4	PREPARE TO STOP
W20-1	ROAD WORK AHEAD
W20-4	ONE LANE ROAD AHEAD

GENERAL NOTES TRAFFIC CONTROL:

- A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2012 EDITION) (CAMUTCD).
- B. ALL NEW SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREETS AND HIGHWAYS (CAMUTCD), 2012 EDITION. ALL SIGN SIZES SHALL BE THE STANDARD SIZE SHOWN IN THEIR RESPECTIVE PUBLICATIONS UNLESS NOTED OTHERWISE ON THE PLAN. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED. ALL TUBULAR PORTABLE DELINEATORS SHALL BE 36" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 6" HEIGHT. CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL HAVE 2 HIGH INTENSITY REFLECTIVE BANDS WITH A TOTAL OF 10" HEIGHT REFLECTIVE SURFACE.
- C. ALL NEW STRIPING, PAVEMENT MARKERS, PAVEMENT LEGENDS, ARROWS, MARKINGS AND CURB PAINTING SHALL CONFORM TO THE 2010 CALTRANS STANDARD SPECIFICATIONS SECTION 84, TRAFFIC STRIPES AND PAVEMENT MARKINGS, AND SECTION 85, PAVEMENT MARKERS, STANDARD PLANS A20A-D AND A24A-E, THE CURRENT CITY OF HUNTINGTON BEACH PUBLIC WORKS DEPARTMENT STANDARD PLANS, AND THESE PLANS. CONTRACTOR SHALL RESTORE ANY AND ALL STRIPING AND PAVEMENT MARKINGS DAMAGED OR REMOVED DURING CONSTRUCTION PER CITY OF HUNTINGTON BEACH REQUIREMENTS. CONTRACTOR MAY USE PREFABRICATED REMOVABLE DETOUR TAPE, PAVEMENT ARROWS, AND RAISED PAVEMENT MARKERS FOR SHORT-TERM USE AS DIRECTED BY THE ENGINEER.
5. CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M.. ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).
6. FLASHING BEACONS AND WARNING LIGHTS SHALL BE USED AS DIRECTED BY THE ENGINEER; OR THE STATE INSPECTOR IN OR IN ADVANCE OF STATE R/W.
7. ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE ENGINEER) ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS.
8. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.
9. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES IF AT ALL POSSIBLE. ADDITIONAL CONES OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
10. 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE IMMEDIATE VICINITY OF A TRAFFIC SIGNAL CONTROLLED INTERSECTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (800-422-4133). THIS PRIOR NOTICE WILL ALLOW THE LOCATION AND MARKING OF UNDERGROUND TRAFFIC SIGNAL CONDUIT AND TRAFFIC SIGNAL LOOP DETECTORS PRIOR TO CONSTRUCTION DAMAGES TO TRAFFIC SIGNAL CONDUIT, CONDUCTORS, LOOP DETECTORS, OR OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BE REPAIRED WITHIN 24 HOURS AT THE CONTRACTOR'S EXPENSE, PER THE CITY OF HUNTINGTON BEACH STANDARD SPECIAL PROVISIONS FOR THE CONSTRUCTION OF TRAFFIC SIGNALS AND STREET LIGHTING, LATEST EDITION.
11. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. STREETS ALONG THE HAUL ROUTE SHALL BE SWEEPED OR WASHED DAILY, DURING EACH DAY OF HAULING OPERATIONS.

12. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SANDBLAST ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS. CONTRACTOR SHALL RESTORE EXISTING STRIPING, REMOVED DURING CONSTRUCTION, BACK TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER IN THE FIELD.
13. ALL ADVANCE WARNING SIGNS INSTALLED SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD TO BE REMOVED OR RELOCATED.
14. REMOVE ANY EXCESS AND/OR CONFLICTING EXISTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.
15. THE CONTRACTOR SHALL COORDINATE BUS STOP RELOCATIONS AND CLOSURES WITH OCTA TRANSIT.
16. THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS.
17. THE CONTRACTOR SHALL INSTALL OPTICOM DEVICES AS AN INTEGRAL PART OF THE TRAFFIC CONTROL LIGHTS.
18. THE CONTRACTOR SHALL KEEP ALL STORAGE, VEHICLES, EQUIPMENT, FENCING, AND OTHER ITEMS AWAY FROM THE KRAILS AND SIDEWALKS SO THAT VEHICLE MIRRORS DO NOT HIT THEM (NO OBSTRUCTIONS ABOVE 4 FEET).

FINAL STRIPING AND  
MARKINGS NOTES:

- ALL FINAL STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).
- INSTALL DOUBLE YELLOW STRIPE AT CENTER OF BRIDGE FROM 100' EAST AND WEST OF BRIDGE.
  - INSTALL "AHEAD" PAVEMENT MARKING AT STA. 6+38.04 AND "STOP" PAVEMENT MARKING AT STA. 5+82.29 AND STA. 10+25.55.

TEMPORARY STRIPING AND MARKINGS NOTES:

- ALL TEMPORARY STRIPINGS AND PAVEMENT MARKINGS SHALL BE PER CALTRANS STANDARD PLANS (LATEST EDITION).
- 59A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.
- FURNISH AND INSTALL TEMPORARY SIGNAL. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
  - INSTALL 12" WIDE LIMIT LINE PER CALTRANS STD. PLAN A24E.
  - REMOVE ANY EXCESS AND/OR CONFLICTING PAVEMENT MARKINGS AND STRIPING BY SANDBLASTING.
  - PROTECT EXISTING STOP SIGN.
  - COVER EXISTING CONFLICTING SIGN.

Underground Service Alert

CALL BEFORE YOU DIG

Call: 811

TWO WORKING DAYS BEFORE YOU DIG

REVISIONS				
REV.	DATE	BY	DESCRIPTION	APP'VD

REFERENCES		

W.G.ZIMMERMAN ENGINEERING, INC.  
5772 BOLSA AVE SUITE 200  
HUNTINGTON BEACH, CA 92649  
TEL: (714) 799 1700  
FAX: (714) 799 1701

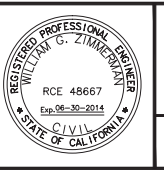
DRAWN BY: CC 3/26/2013  
DESIGNED BY: RB 3/26/2013  
CHECKED BY: BZ 3/26/2013

PREPARED UNDER THE SUPERVISION OF:

WILLIAM G. ZIMMERMAN, P.E. DATE  
R.C.E. NO.: C48667 EXP. DATE: 6/30/2014

APPROVED BY:

M. Todd Broussard PRINCIPAL C.E. DATE  
R.C.E. NO.: C57144 EXP. DATE: 12/31/13



TRAFFIC CONTROL PLAN 1

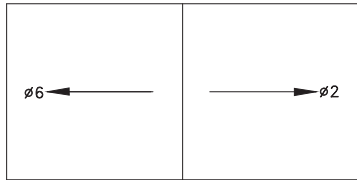
**HUMBOLDT DR HIGHWAY BRIDGE REHABILITATION**

(OVER SHORT CHANNEL)

STA. X+XX.XX TO STA. X+XX.XX

SHEET NO.  
4  
OF  
8  
TC 1

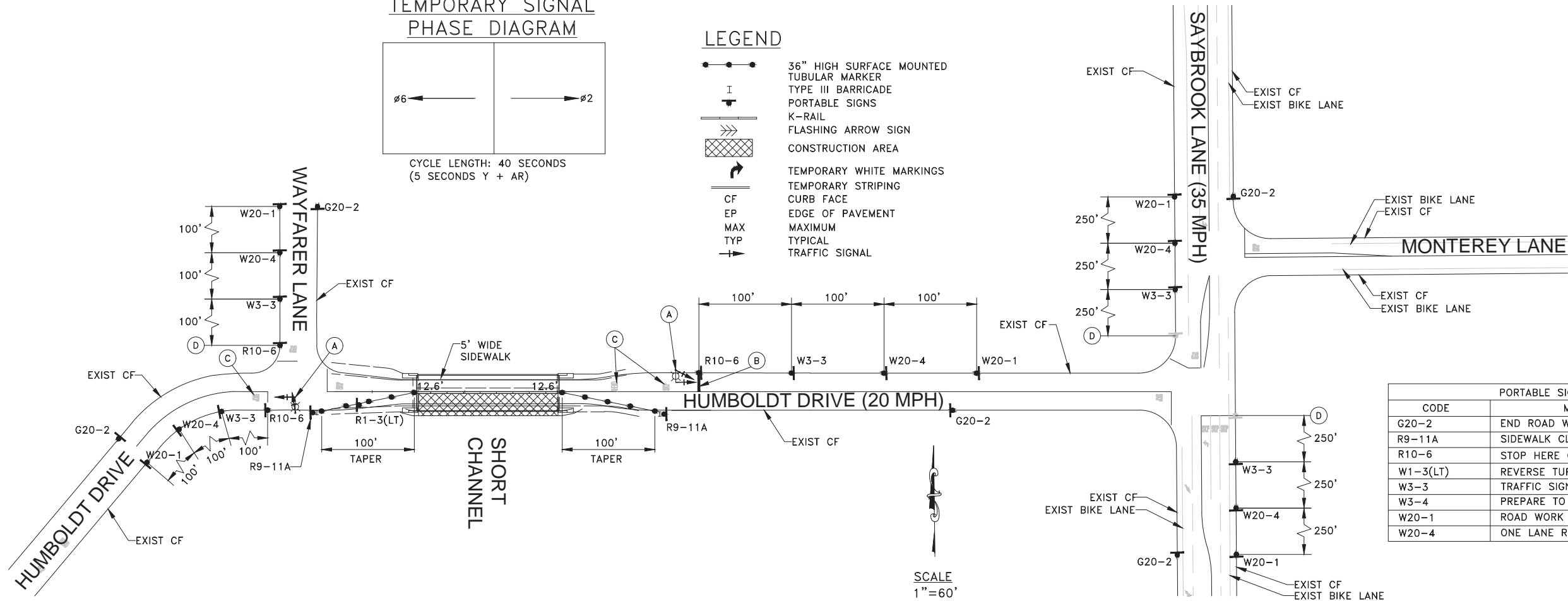
TEMPORARY SIGNAL  
PHASE DIAGRAM



CYCLE LENGTH: 40 SECONDS  
(5 SECONDS Y + AR)

LEGEND

- 36" HIGH SURFACE MOUNTED TUBULAR MARKER
- TYPE III BARRICADE
- PORTABLE SIGNS
- K-RAIL
- FLASHING ARROW SIGN
- CONSTRUCTION AREA
- TEMPORARY WHITE MARKINGS
- TEMPORARY STRIPING
- CURB FACE
- EDGE OF PAVEMENT
- MAXIMUM
- TYPICAL
- TRAFFIC SIGNAL



PORTABLE SIGN INDEX	
CODE	MESSAGE
G20-2	END ROAD WORK
R9-11A	SIDEWALK CLOSED CROSS HERE
R10-6	STOP HERE ON RED
W1-3(LT)	REVERSE TURN
W3-3	TRAFFIC SIGNAL HEAD
W3-4	PREPARE TO STOP
W20-1	ROAD WORK AHEAD
W20-4	ONE LANE ROAD AHEAD

GENERAL NOTES TRAFFIC CONTROL:

- A. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE PART 6 OF THE CALIFORNIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (2012 EDITION) (CAMUTCD).  
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- NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
- THE ENGINEER SHALL BE DEFINED AS THE CITY OF HUNTINGTON BEACH TRAFFIC ENGINEER OR HIS REPRESENTATIVE OR THE STATE INSPECTOR WITHIN STATE R/W.
- THE ENGINEER AND STATE INSPECTOR WILL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE AGENCY.

- CONSTRUCTION ACTIVITY IN THE ROADWAY WILL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 4:00 P.M.. ALL TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 4:00 P.M. TO 7:00 A.M., UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER (STATE INSPECTOR WITHIN STATE R/W).
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39A INDICATES DETAIL NUMBER PER CALTRANS STD PLANS A20A TO A20D.

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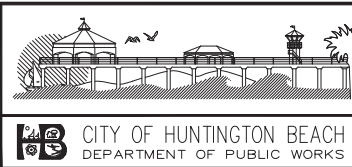
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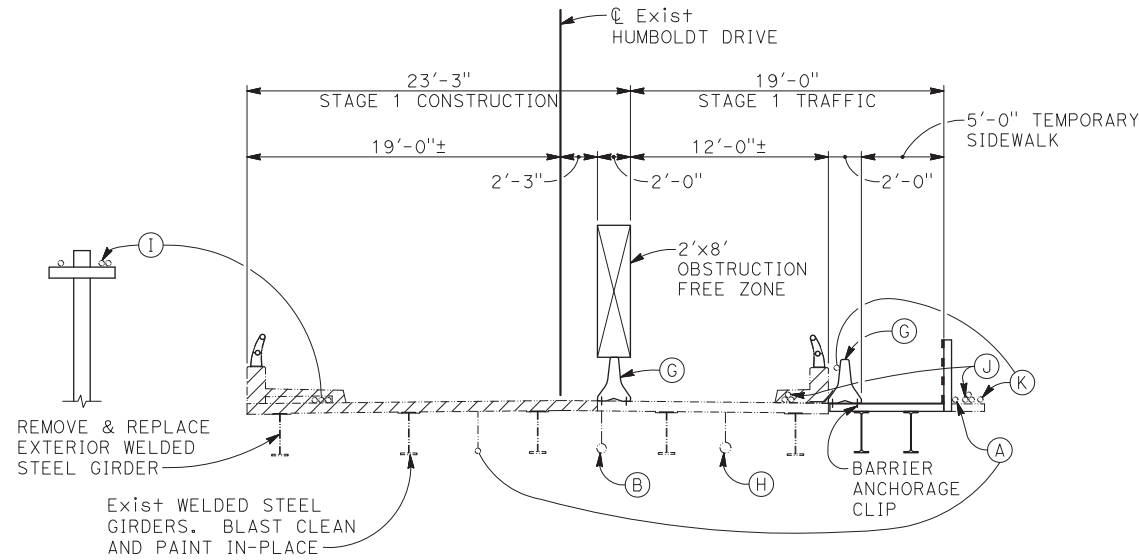


TRAFFIC CONTROL PLAN 2  
**HUMBOLDT DR HIGHWAY BRIDGE REHABILITATION**  
(OVER SHORT CHANNEL)  
STA. X+XX.XX TO STA. X+XX.XX

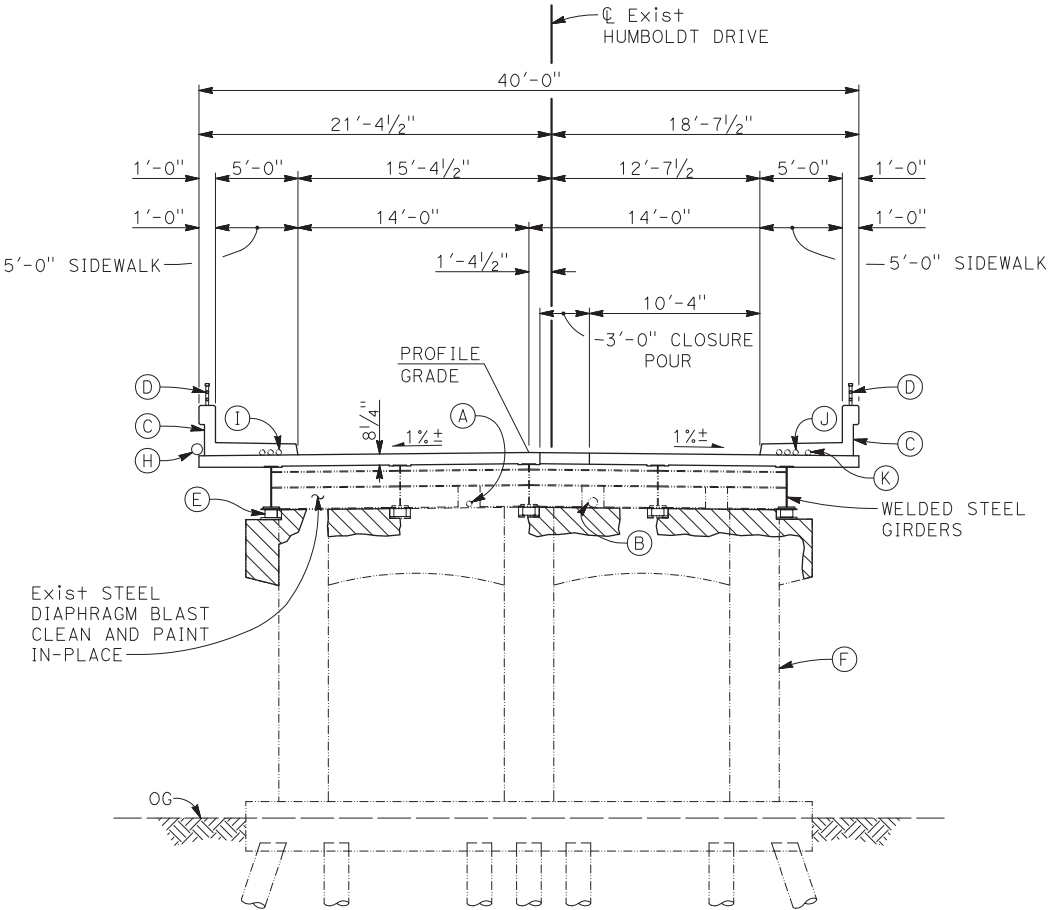
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TC 2



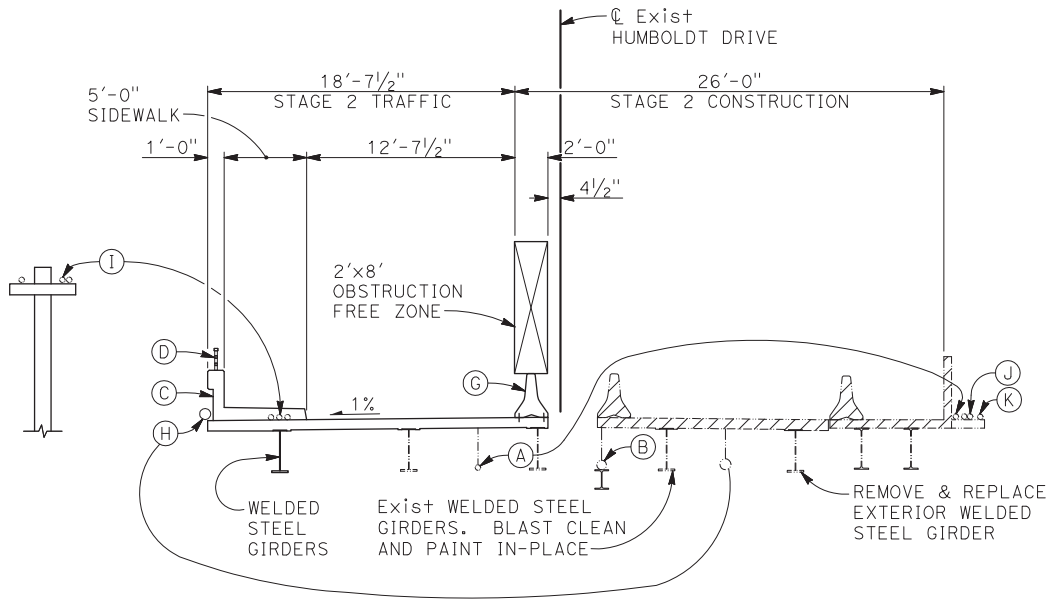




**STAGE 1  
TYPICAL SECTION**  
3/16" = 1'-0"



**FINAL STAGE  
TYPICAL SECTION**  
3/16" = 1'-0"



**STAGE 2  
TYPICAL SECTION**  
3/16" = 1'-0"

LEGEND:





- Indicates portion of existing bridge to be removed and replaced
- Indicates existing structure
- Indicates new construction
- Indicates unsound concrete to be removed and patched

NOTES:

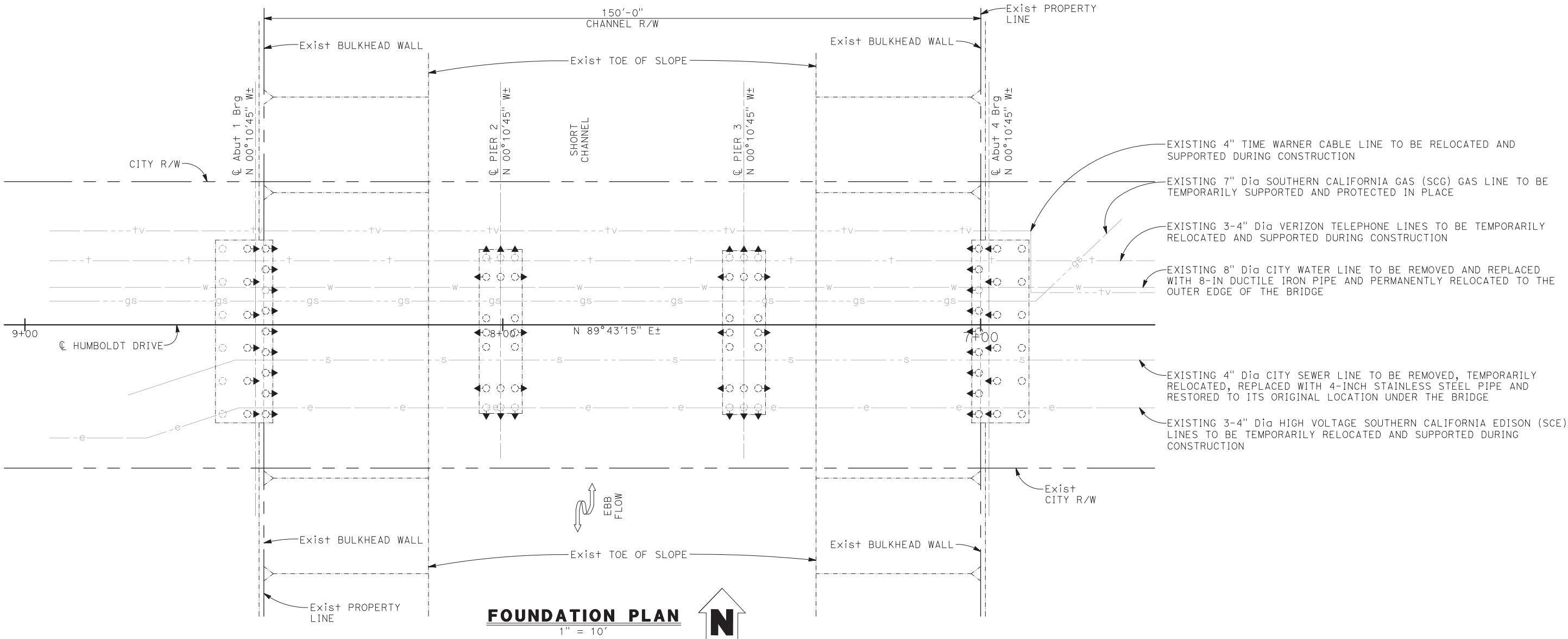
- (A) Existing 4" dia City sewer line to be removed, temporarily relocated, replaced with 4-inch stainless steel pipe and restored to its original location under the bridge
- (B) Existing 7" dia Southern California Gas (SCG) gas line to be temporarily supported and protected in place
- (C) Concrete Barrier Type 26
- (D) Tubular Handrailing (Mod)
- (E) Existing steel bearings, remove and replace with elastomeric pads
- (F) Existing Pier
- (G) Temporary Railing Type K, see "ROAD PLANS"
- (H) Existing 8" dia City water line to be removed and replaced with 8-in ductile iron pipe and permanently relocated to the outer edge of the bridge
- (I) Existing 3-4" dia high voltage Southern California Edison (SCE) lines to be temporarily relocated and supported during construction
- (J) Existing 3-4" dia Verizon telephone lines to be temporarily relocated and supported during construction
- (K) Existing 4" Time Warner cable line to be relocated and supported during construction

NOTE:  
THE CONTRACTOR SHALL VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL.

PLAN CHECK SET/NOT FOR CONSTRUCTION (3/6/15)





<div>Underground Service Alert</div> <div>Call: 811</div> <div>TWO WORKING DAYS BEFORE YOU DIG</div>		<div>REVISIONS</div> <table><thead><tr><th>REV.</th><th>DATE</th><th>BY</th><th>DESCRIPTION</th><th>APP'VD</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>		REV.	DATE	BY	DESCRIPTION	APP'VD																										<div>REFERENCES</div> <div><div><div><b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS</div><div>600 So. Main St., Suite 200 Orange, California 92668 714-550-4665</div></div><div></div></div> <div><div>DRAWN BY:DM3/26/2013</div><div>DESIGNED BY:RBS3/26/2013</div><div>CHECKED BY:</div></div>		<div>PREPARED UNDER THE SUPERVISION OF:</div> <div><div>Michael A. Thomas PRINCIPAL S.E. DATE R.S.E. NO.: <b>S4676</b> EXP. DATE: <b>9/30/14</b></div><div>APPROVED BY:</div><div><div>M. Todd Broussard PRINCIPAL C.E. DATE R.C.E. NO.: <b>C57144</b> EXP. DATE: <b>12/31/13</b></div><div></div><div></div></div></div> <td colspan="2"><div>GENERAL PLAN No. 2</div><div><b>HUMBOLDT DR HIGHWAY BRIDGE REHABILITATION</b></div><div>(OVER SHORT CHANNEL)</div><div>STA. X+X.X TO STA. X+X.X</div></td> <td><div>SHEET NO.</div><div>7</div><div>OF</div><div>8</div><div>S2</div></td>		<div>GENERAL PLAN No. 2</div> <div><b>HUMBOLDT DR HIGHWAY BRIDGE REHABILITATION</b></div> <div>(OVER SHORT CHANNEL)</div> <div>STA. X+X.X TO STA. X+X.X</div>		<div>SHEET NO.</div> <div>7</div> <div>OF</div> <div>8</div> <div>S2</div>
REV.	DATE	BY	DESCRIPTION	APP'VD																																				

- NOTES:
- 1. --- Indicates existing structure
  - 2. ○ Indicates existing piles



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CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL.

PLAN CHECK SET/NOT FOR CONSTRUCTION (3/6/15)

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**Attachment 2**  
**Summary of Mitigation Measures**



Description of Impact	Mitigation Measure
Impacts related to water quality	<p><b>W-1 Reduced Work Areas</b></p> <p>During construction, the Contractor shall ensure that work areas are reduced to the maximum extent feasible to avoid the channel and minimize impacts on waters of the U.S. and state.</p>
Impacts related to water quality	<p><b>W-2 Tenting System</b></p> <p>During construction, the Contractor shall ensure that measures for preventing material, equipment, and debris from falling into the channel are in place at all times while the bridge deck is being removed. The work area would be tented and isolated to minimize the potential for concrete dust, debris, paint chips, rust, and construction material to fall into the channel.</p>
Impacts related to water quality	<p><b>W-3 Working Platforms</b></p> <p>During construction, the Contractor shall ensure that working platforms with protective cover enclosures are installed around the bridge piers prior to repair. All work on the piers would be performed during low tide using the protective cover enclosures to minimize the potential for construction materials to fall and carry pollutants and sediment plumes into the channel. The protective cover enclosures would be removed and the working platforms would be cleaned each day before high tide, when platforms would become submerged. Initial installation and final removal of the working platforms would be completed during low tide to minimize sedimentation and turbidity in the channel.</p>
Impacts related to water quality	<p><b>W-4 Hazardous Materials BMPs</b></p> <p>During construction, the Contractor shall implement appropriate hazardous material BMPs to reduce the potential for chemical spills or contaminant releases, including any non-stormwater discharge. A spill prevention plan would be developed and included as part of the SWPPP. Implementation of standard hazardous materials management and spill control response measures will minimize the potential for contamination of road surfaces and waters of the U.S. in the channel. All vehicles and equipment will be checked daily for fluid and fuel leaks, and drip pans will be placed under all equipment that is parked and not in operation. Vehicles and equipment will not be refueled or maintained in areas where pollutants could be released into the channel.</p>
Impacts related to biological resources	<p><b>B-1 Reduced Construction Areas</b></p> <p>During construction, the Contractor shall ensure that construction areas</p>

	are reduced to the maximum extent feasible to avoid impacts on migratory birds.
Impacts related to biological resources	<p><b>B-2 Scheduling of Construction Outside Nesting Bird Season</b></p> <p>During construction, the Contractor shall ensure that construction activities, including vegetation removal, are scheduled outside of the nesting bird season (February 15 to September 1) to the extent feasible. In addition, vegetation removal for the project would be minimized to the extent feasible.</p>
Impacts related to biological resources	<p><b>B-3 Pre-Construction Nesting Bird Surveys</b></p> <p>If construction is required during bird nesting season, the Contractor shall ensure that pre-construction nesting bird surveys are completed by a qualified biologist no more than 48 hours prior to construction to determine if nesting birds or active nests are on the bridge, beneath the bridge, or within 300 feet of the construction area. Surveys would be repeated if construction activities are suspended for five days or more.</p>
Impacts related to biological resources	<p><b>B-4 Nesting Bird Surveys by Qualified Biologist</b></p> <p>If vegetation removal must be completed during the nesting season, that Contractor shall ensure that nesting bird surveys are completed by a qualified biologist within 48 hours prior to these activities to determine whether nesting birds are in these areas.</p>
Impacts related to biological resources	<p><b>B-5 Appropriate Buffers if Nesting Birds Found</b></p> <p>If nesting birds are found in the project site, the Contractor shall ensure during construction that appropriate buffers (typically 300 feet for songbirds) are installed, in coordination with the appropriate resource agencies, to ensure that nesting birds and/or their nests are not harmed.</p>
Impacts related to biological resources	<p><b>B-6 Wildlife Species</b></p> <p>The Contractor shall ensure that pre-construction wildlife surveys are completed by a qualified biologist no more than 48 hours prior to clearing, grubbing, or other activities to determine the presence/absence of nesting birds, bats or other sensitive species within 300 feet of the construction area. Surveys would be repeated if construction activities are suspended for five days or more. If any wildlife species are identified, appropriate measures would be developed and implemented to avoid impacts on these species, in consultation with resource agencies as applicable.</p>
Impacts related to hazardous materials	<p><b>H-1 Lead and Asbestos Survey</b></p> <p>The Contractor shall ensure that a lead and asbestos survey is completed by a licensed specialist prior to construction to determine if</p>

	<p>there are lead- and asbestos-containing materials in the bridge structure. If no lead- or asbestos-containing materials are found during this process, no further action would be required.</p>
Impacts related to hazardous materials	<p><b>H-2 Proper Handling and Disposal</b></p> <p>If lead- and asbestos-containing materials are found in the bridge structure, the Contractor shall ensure during construction that handling and disposal are conducted in a manner approved by the California Division of Occupational Safety and Health (Cal-OSHA).</p>
Impacts related to construction noise	<p><b>N-1 Construction Noise Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• During construction, the Contractor shall ensure that all construction equipment, fixed or mobile, are maintained in proper operating condition, and mufflers shall be working adequately.</li> <li>• During construction, the Contractor shall ensure that all construction equipment is located so that emitted noise is directed away from sensitive noise receptors.</li> <li>• During construction, the Contractor shall ensure that stockpiling and vehicle-staging areas are located away from sensitive noise receptors during construction activities, to the extent feasible.</li> <li>• Two weeks prior to construction, the Contractor shall ensure that notification is provided in writing to residences within 150 feet of the active construction area.</li> <li>• If warranted, the Contractor shall ensure during construction that temporary noise barriers, including sound blankets, are installed between the areas of active construction and sensitive receptors.</li> </ul>
Impacts related to cultural resources	<p><b>C-1 Assessment of Resources if Found</b></p> <p>If archaeological resources, paleontological resources, or unique geologic features are encountered during construction, the Contractor shall ensure that all ground-disturbing work is stopped until an archaeologist or monitor can properly assess the resource(s) and identify the appropriate measures to ensure that resource(s) would not be adversely affected. If human remains are encountered during construction, all ground-disturbing work will be stopped and standard measures required by California Health and Safety Code Section 7050.5 will be followed to notify the County Coroner and identify the remains.</p>

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# **Attachment 3**

## **CalEEMod Calculations**



## Humboldt Drive Bridge over Short Channel

### South Coast AQMD Air District, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.00	Acre	0.45	19,602.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	8			<b>Operational Year</b>	2014
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	630.89	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Calculated size of the bridge

Construction Phase - Conservative assumptions using 8-month construction period. "Demolition" in this case refers to the removal of unsound concrete.

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Demolition - 1 cubic yard of hot asphalt mix weighs 2.025 tons. Assume bridge is  $19,602 \text{ ft}^2 = 2178 \text{ yd}^2$ . Assume 1 yd depth =  $2178 \text{ yd}^3 = 4411 \text{ tons}$ .

Architectural Coating -

Consumer Products -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	43,560.00	19,602.00
tblLandUse	LotAcreage	1.00	0.45

## 2.0 Emissions Summary

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## 2.1 Overall Construction

### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.2430	0.1591	0.1240	2.7000e-004	0.0523	7.5400e-003	0.0599	8.5000e-003	7.1200e-003	0.0156	0.0000	24.6873	24.6873	2.1300e-003	0.0000	24.7319
Total	0.2430	0.1591	0.1240	2.7000e-004	0.0523	7.5400e-003	0.0599	8.5000e-003	7.1200e-003	0.0156	0.0000	24.6873	24.6873	2.1300e-003	0.0000	24.7319

### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.2430	0.1591	0.1240	2.7000e-004	0.0523	7.5400e-003	0.0599	8.5000e-003	7.1200e-003	0.0156	0.0000	24.6873	24.6873	2.1300e-003	0.0000	24.7319
<b>Total</b>	<b>0.2430</b>	<b>0.1591</b>	<b>0.1240</b>	<b>2.7000e-004</b>	<b>0.0523</b>	<b>7.5400e-003</b>	<b>0.0599</b>	<b>8.5000e-003</b>	<b>7.1200e-003</b>	<b>0.0156</b>	<b>0.0000</b>	<b>24.6873</b>	<b>24.6873</b>	<b>2.1300e-003</b>	<b>0.0000</b>	<b>24.7319</b>

[illegible]

## 2.2 Overall Operational

### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0936	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0936</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

## 2.2 Overall Operational

### Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0936	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0936</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## 3.0 Construction Detail

### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/14/2016	5	10	
2	Site Preparation	Site Preparation	1/15/2016	1/15/2016	5	1	
3	Paving	Paving	1/16/2016	1/22/2016	5	5	
4	Architectural Coating	Architectural Coating	1/23/2016	1/29/2016	5	5	

**Acres of Grading (Site Preparation Phase): 0.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,403; Non-Residential Outdoor: 9,801 (Architectural Coating – sqft)**

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

#### Trips and VMT



Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	436.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Demolition - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0472	0.0000	0.0472	7.1500e-003	0.0000	7.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005		4.0200e-003	4.0200e-003		3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
<b>Total</b>	<b>6.5600e-003</b>	<b>0.0562</b>	<b>0.0435</b>	<b>6.0000e-005</b>	<b>0.0472</b>	<b>4.0200e-003</b>	<b>0.0512</b>	<b>7.1500e-003</b>	<b>3.8400e-003</b>	<b>0.0110</b>	<b>0.0000</b>	<b>5.4141</b>	<b>5.4141</b>	<b>1.0800e-003</b>	<b>0.0000</b>	<b>5.4369</b>

**3.2 Demolition - 2016****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8800e-003	0.0630	0.0476	1.6000e-004	3.7400e-003	9.5000e-004	4.6900e-003	1.0300e-003	8.7000e-004	1.9000e-003	0.0000	14.6824	14.6824	1.1000e-004	0.0000	14.6846
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	3.0000e-004	3.0700e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5139	0.5139	3.0000e-005	0.0000	0.5145
<b>Total</b>	<b>4.0800e-003</b>	<b>0.0633</b>	<b>0.0507</b>	<b>1.7000e-004</b>	<b>4.2900e-003</b>	<b>9.5000e-004</b>	<b>5.2400e-003</b>	<b>1.1800e-003</b>	<b>8.7000e-004</b>	<b>2.0500e-003</b>	<b>0.0000</b>	<b>15.1963</b>	<b>15.1963</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>15.1991</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0472	0.0000	0.0472	7.1500e-003	0.0000	7.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005		4.0200e-003	4.0200e-003		3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
<b>Total</b>	<b>6.5600e-003</b>	<b>0.0562</b>	<b>0.0435</b>	<b>6.0000e-005</b>	<b>0.0472</b>	<b>4.0200e-003</b>	<b>0.0512</b>	<b>7.1500e-003</b>	<b>3.8400e-003</b>	<b>0.0110</b>	<b>0.0000</b>	<b>5.4141</b>	<b>5.4141</b>	<b>1.0800e-003</b>	<b>0.0000</b>	<b>5.4369</b>

**3.2 Demolition - 2016****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8800e-003	0.0630	0.0476	1.6000e-004	3.7400e-003	9.5000e-004	4.6900e-003	1.0300e-003	8.7000e-004	1.9000e-003	0.0000	14.6824	14.6824	1.1000e-004	0.0000	14.6846
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	3.0000e-004	3.0700e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5139	0.5139	3.0000e-005	0.0000	0.5145
<b>Total</b>	<b>4.0800e-003</b>	<b>0.0633</b>	<b>0.0507</b>	<b>1.7000e-004</b>	<b>4.2900e-003</b>	<b>9.5000e-004</b>	<b>5.2400e-003</b>	<b>1.1800e-003</b>	<b>8.7000e-004</b>	<b>2.0500e-003</b>	<b>0.0000</b>	<b>15.1963</b>	<b>15.1963</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>15.1991</b>

**3.3 Site Preparation - 2016****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	6.8200e-003	3.6700e-003	0.0000		4.2000e-004	4.2000e-004		3.8000e-004	3.8000e-004	0.0000	0.4414	0.4414	1.3000e-004	0.0000	0.4442
<b>Total</b>	<b>6.8000e-004</b>	<b>6.8200e-003</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>4.2000e-004</b>	<b>6.9000e-004</b>	<b>3.0000e-005</b>	<b>3.8000e-004</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>0.4414</b>	<b>0.4414</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4442</b>

**3.3 Site Preparation - 2016****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.5000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0257	0.0257	0.0000	0.0000	0.0257
<b>Total</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0257</b>	<b>0.0257</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0257</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	6.8200e-003	3.6700e-003	0.0000		4.2000e-004	4.2000e-004		3.8000e-004	3.8000e-004	0.0000	0.4414	0.4414	1.3000e-004	0.0000	0.4442
<b>Total</b>	<b>6.8000e-004</b>	<b>6.8200e-003</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>4.2000e-004</b>	<b>6.9000e-004</b>	<b>3.0000e-005</b>	<b>3.8000e-004</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>0.4414</b>	<b>0.4414</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4442</b>

**3.3 Site Preparation - 2016****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.5000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0257	0.0257	0.0000	0.0000	0.0257
<b>Total</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0257</b>	<b>0.0257</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0257</b>

**3.4 Paving - 2016****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0266	0.0182	3.0000e-005		1.6500e-003	1.6500e-003		1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>3.3900e-003</b>	<b>0.0266</b>	<b>0.0182</b>	<b>3.0000e-005</b>		<b>1.6500e-003</b>	<b>1.6500e-003</b>		<b>1.5300e-003</b>	<b>1.5300e-003</b>	<b>0.0000</b>	<b>2.4575</b>	<b>2.4575</b>	<b>6.7000e-004</b>	<b>0.0000</b>	<b>2.4717</b>

**3.4 Paving - 2016****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	2.7000e-004	2.7600e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4625	0.4625	2.0000e-005	0.0000	0.4631
<b>Total</b>	<b>1.8000e-004</b>	<b>2.7000e-004</b>	<b>2.7600e-003</b>	<b>1.0000e-005</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>5.0000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4625</b>	<b>0.4625</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4631</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8000e-003	0.0266	0.0182	3.0000e-005		1.6500e-003	1.6500e-003		1.5300e-003	1.5300e-003	0.0000	2.4575	2.4575	6.7000e-004	0.0000	2.4717
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>3.3900e-003</b>	<b>0.0266</b>	<b>0.0182</b>	<b>3.0000e-005</b>		<b>1.6500e-003</b>	<b>1.6500e-003</b>		<b>1.5300e-003</b>	<b>1.5300e-003</b>	<b>0.0000</b>	<b>2.4575</b>	<b>2.4575</b>	<b>6.7000e-004</b>	<b>0.0000</b>	<b>2.4717</b>

**3.4 Paving - 2016****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	2.7000e-004	2.7600e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4625	0.4625	2.0000e-005	0.0000	0.4631
<b>Total</b>	<b>1.8000e-004</b>	<b>2.7000e-004</b>	<b>2.7600e-003</b>	<b>1.0000e-005</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>5.0000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4625</b>	<b>0.4625</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4631</b>

**3.5 Architectural Coating - 2016****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2271					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	5.9300e-003	4.7100e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
<b>Total</b>	<b>0.2281</b>	<b>5.9300e-003</b>	<b>4.7100e-003</b>	<b>1.0000e-005</b>		<b>4.9000e-004</b>	<b>4.9000e-004</b>		<b>4.9000e-004</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>0.6383</b>	<b>0.6383</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.6399</b>

### 3.5 Architectural Coating - 2016

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0514	0.0514	0.0000	0.0000	0.0515
<b>Total</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0514</b>	<b>0.0514</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0515</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2271					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-004	5.9300e-003	4.7100e-003	1.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	0.6383	0.6383	8.0000e-005	0.0000	0.6399
<b>Total</b>	<b>0.2281</b>	<b>5.9300e-003</b>	<b>4.7100e-003</b>	<b>1.0000e-005</b>		<b>4.9000e-004</b>	<b>4.9000e-004</b>		<b>4.9000e-004</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>0.6383</b>	<b>0.6383</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.6399</b>



### 3.5 Architectural Coating - 2016

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0514	0.0514	0.0000	0.0000	0.0515
Total	2.0000e-005	3.0000e-005	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0514	0.0514	0.0000	0.0000	0.0515

## 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

[illegible]

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515683	0.060583	0.179994	0.140474	0.041721	0.006653	0.015053	0.028382	0.001919	0.002521	0.004323	0.000600	0.002094

## 5.0 Energy Detail

### 4.4 Fleet Mix

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

[illegible]

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

[illegible]

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 5.3 Energy by Land Use - Electricity

### Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

### 5.3 Energy by Land Use - Electricity

#### Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

### 6.0 Area Detail

#### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0936	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0936	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

## 6.2 Area by SubCategory

### Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0708					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
<b>Total</b>	<b>0.0935</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

### Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Consumer Products	0.0708					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Architectural Coating	0.0227					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0935</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

## 7.2 Water by Land Use

### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 7.2 Water by Land Use

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 8.0 Waste Detail

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### 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000



## 8.2 Waste by Land Use

### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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## **10.0 Vegetation**

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