

**APPENDIX 11.4**  
**Cultural/  
Paleontological Resources Assessment**



March 20, 2019

Alan Ashimine  
Michael Baker, International  
14725 Alton Parkway  
Irvine, CA 92618-2027

Subject: REVISED Cultural/Paleontological Resources Assessment for the Proposed Bay Bridge Pump Station and Force Mains Rehabilitation Project, City of Newport Beach, Orange County, California (DUKE CRM Project C-0209)

Dear Mr. Ashimine:

Duke Cultural Resources Management, LLC (DUKE CRM) is under contract to Michael Baker, International to perform a cultural and paleontological resources assessment of the proposed Bay Bridge Pump Station and Force Mains Rehabilitation Project, located in the City of Newport Beach, Orange County, California. This report has been prepared to comply with the California Environmental Quality Act (CEQA). DUKE CRM conducted cultural and paleontological research to identify any resources that may be impacted by the proposed project.

The project site is located at and adjacent to the Orange County Sanitation District's (OCSD) existing Bay Bridge Pump Station, located at 300 East Pacific Coast Highway (PCH) with the nearest cross street of Bayside Drive approximately 300 feet to the east (see Attachment 1 for project maps). The project includes the installation of new force mains south of the bridge that would extend from a new pump station in Bayside Village Marina, tunnel under the East Coast Highway, turn and continue west along the south side the Highway, continue under the channel via tunneling or dredging to connect with existing force mains south of the bridge. Additional changes to existing sewers to service the new pump station are proposed as well.

## **Records Search**

### ***Cultural Resources***

On December 6, 2016, Curt Duke, M.A., R.P.A., conducted a records search at the South Central Coastal Information Center (SCCIC). The SCCIC is part of the California Historical Resources Information System (CHRIS) and is located at California State University, Fullerton. The records search included a review of all recorded historic and prehistoric archaeological sites within a ½ mile radius of the project area, as well as a review of known cultural resource survey and excavation reports. In addition, Mr. Duke examined the California State Historic Property Data File (HPD), which includes the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Twenty-one cultural resource reports are on file within ½ mile. Eleven cultural resources are mapped within ½ mile of the project boundary although none are within the project area. No impacts to any of these resources are expected. Table 1 summarizes

cultural resource studies within ½ mile of the project area. Table 2 summarizes cultural resources found within ½ mile of the project.

**Table 1- Prior Cultural Resource Studies located within ½ mile of the Project**

Report No.	Report Title	Author and Year
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OR-00018	Addendum to the Archaeological Consideration Aspect of the Draft Environmental Impact Statement (number Fhwa-CA-eis-75-02-d) Concerning the Replacement of the Existing Upper Newport Bay Bridge on the Pacific Coast Highway, State Route 1, in the City of Newport Beach, California	Rosen, Martin D., 1975
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OR-01630	Cultural Resources Investigation and Monitoring of Grading for the Upper Castaways View Park, Newport Beach, Orange County, Ca.	Bissell, Ronald M., 1997
OR-01702	Cultural Resources Reconnaissance for the Newport Dunes Hotel in Newport Beach, California	Goddard, Timothy A., 1998
OR-01904	Test Excavation of a Portion of CA-ORA-48. Newport Beach, Orange County, California	Bissell, Ronald M., 1990
OR-01955	Letter of Transmittal Report of Archaeology and Paleontology Evaluation, -2170 Acre Inc. Forster Ranch Property, San Clemente, California	Nicoll, Gerald A., 1974
OR-02130	Results of the Cultural Resource Assessment, Native American Consultation and Extended Subsurface Assessment for Pacific Bell Mobile Services, Cm 481-01, in the City of Newport Beach, Orange County	Duke, Curt and Steven Conkling, 1999
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OR-03957	Mariner's Point, Newport Beach, California.	McKenna, Jeanette. 2011
OR-04163	LA3031-Harbor Church and School, 798 Dover Drive Newport Beach, CA 92663	Wlodarski, Robert. 2011

Eleven cultural resources are recorded in the ½ mile radius of the project area though none are within the project boundaries. They are summarized in Table 2 below.

**Table 2, Cultural Resources within ½ mile of the project area**

Primary No.	Description	Distance
30-000048	Prehistoric Shell Midden Site	1/3 mile, North
30-000049	Marine Shell Mound Site	¼ mile, North
30-000066	Marine Shell Scatter/ Mound	½ mile, East
30-000067	Marine Shell Scatter/ Mound	½ mile, East
30-000068	Marine Shell Scatter/ Mound	¼ mile, East
30-000157	Shell Midden Site	½ mile, East
30-000158	Shell Midden Site, possible same as 30-000067 above	¼ mile, East
30-000159	Same Site as 30-000068 above.	1/3 mile, East
30-000186	Shell Midden with groundstone and flaked stone artifacts	600 ft North (on bluffs)
30-001451	Small site containing lithic artifacts	¼ mile, North
30-162261	Historical Marker Plaque- Old Landing, CHL 198	Adjacent, North

### ***Paleontological Resources and Sensitivity***

The geology of the project area has been mapped by Morton and Miller (2006) at a scale of 1:100,000. A review of this map indicated that the project area is predominantly underlain by very young estuarine deposits (Qes) of the Holocene Epoch (11,700 years ago to today). The very young estuarine deposits are too recent to have accumulated or fossilized paleontological resources, and are assigned a low sensitivity. However, the young estuarine deposits may overlie deposits of the Capistrano Formation (Tcs), which ranges from the Miocene (23 to 5 million years ago) to Pliocene (5 to 2.5 million years ago), at depth. The Capistrano Formation has produced significant paleontological resources, including a “diverse assemblage” of marine mammal fossils (Deméré and Walsh, 1993), and would be assigned a high sensitivity if encountered.

A paleontological records search was conducted by the Los Angeles County Museum of Natural History (LACNHM). The search did not reveal any fossil localities in the project area or in nearby young estuarine deposits, but it did document several fossil localities nearby in deposits of the Capistrano Formation and similarly-aged sediment, including sperm whale, baleen whales, bony fish, and other marine mammals (McLeod, 2016). The search of the on-line files of the University of California, Museum of Paleontology (UCMP) revealed multiple fossil localities in deposits of the Miocene and Pliocene Epochs in Orange County, with multiple localities in deposits of the Capistrano Formation specifically. These deposits include marine mammals, birds, turtle, fish, sharks and rays, marine invertebrates, and marine microfossils.

### **Field Survey**

A reconnaissance survey of the project area and immediate surroundings was conducted by Matthew Stever on January 16, 2017. Ground visibility within the project APE was poor overall (less than 5%) due to the built environment. The project boundaries are obscured by asphalt, concrete or other modern construction. The survey confirmed that the project area is characterized as built environment and that exposed areas of soil adjacent to and beneath the bridge are highly disturbed by construction related earth disturbing activities and dredging of the channel. There is a very slight possibility of disturbed prehistoric artifacts along the extreme northern margin of Castaways Park where the bluff is eroding into the channel, but none were observed on the surface. No cultural or paleontological resources were identified during the survey. See Figures 1-4 below for project overviews.



Figure 1 - South side of Bay Bridge from Bayside Village Marina. View to the west.



Figure 2 - Existing pipe in forced main crossing south of Bay Bridge, on west side of channel. View to the south.



Figure 3 - Area of potential sensitivity on the north edge of Castaways Park. View to the north.



Figure 4 - View to the west. Entrance to the marina from Bayside Drive.

## Impacts Analysis and Recommendations

### *Cultural Resources*

DUKE CRM evaluated the proposed project for impacts to cultural resources according to CEQA. Based on a lack of previously recorded prehistoric archaeological sites within the project boundary and the heavily disturbed nature of the soils from decades of construction and ground disturbance associated with road building and other commercial construction, the discovery of intact archaeological resources is unlikely. Out of context materials have limited scientific value and most likely would not be significant cultural resources under CEQA. If encountered, these materials may have cultural value to the local Native American tribes. Given this preliminary information the sensitivity of this property for archaeological resources is considered low, meaning that there is little potential to impact archaeological resources. DUKE CRM does not recommend archaeological monitoring of the project property.

If previously unidentified cultural materials are un-earthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

### *Paleontological Resources*

DUKE CRM evaluated the proposed project for impacts to paleontological resources according to CEQA. The records search did not identify any paleontological resources within the project boundaries or in nearby deposits of similar sediment. Deeper ground disturbance may encounter deposits of the Miocene- to Pliocene-age Capistrano Formation, which have a high sensitivity for containing paleontological resources. However, the projected ground disturbance in the project is predominantly microtunneling and horizontal directional drilling, which normally disturbs sediment to the extent that fossils would not be recoverable. Therefore, regular monitoring of ground disturbing activities is not necessary. Small areas of open cut operations may produce paleontological material, and should be spot-checked. If paleontological resources are recovered during ground disturbing activities, this would result in a potentially significant impact to paleontological resources according to CEQA. In order to mitigate this potential impact to a level that is less than significant under CEQA, DUKE CRM recommends the following:

1. A qualified paleontologist shall be on-site at the pre-construction meeting to discuss monitoring protocols. The qualified paleontologist shall have a B.S./B.A. in geology and/or paleontology with demonstrated competence in research, fieldwork, reporting, and curation.
2. The paleontologist or his/her designee shall be present to conduct a spot check of initial open cut operations. These spot checks will determine the need for additional monitoring of open cut operations, and to confirm that the sediment from tunneling or drilling will be heavily disturbed, and not likely to contain recoverable fossils.
3. If the paleontologist determines that sediment produced during earthwork operations is unlikely to contain recoverable fossils, no further monitoring will be required. If a fossil

or suspected fossil is encountered during further ground disturbing activities, the following steps will be taken:

- a. The fossil site will not be touched, moved, or disturbed in any way.
- b. Work will stop in the immediate area, and in a minimum of 50 feet around the fossil site.
- c. The 50-foot buffer will be marked with brightly colored flagging to make sure no one else disturbs the fossil.
- d. The paleontological monitor, project paleontologist, construction foreman, or supervisor will be immediately notified.
- e. The paleontologist or monitor will examine the fossil, make a determination of significance and make recommendations to the OCSD. If the find is not significant the foreman will be informed when it is okay to resume work in the area. If the find is significant additional steps may be necessary to mitigate the impact to a level that is less than significant (e.g. salvage, analysis, report, curation, etc.).

Thank you for contacting DUKE CRM on this request. If you have any questions or comments, you can contact DUKE CRM at (949) 356-6660 or by e-mail at [curt@dukecrm.com](mailto:curt@dukecrm.com).

Sincerely,

**DUKE CULTURAL RESOURCES MANAGEMENT, LLC**

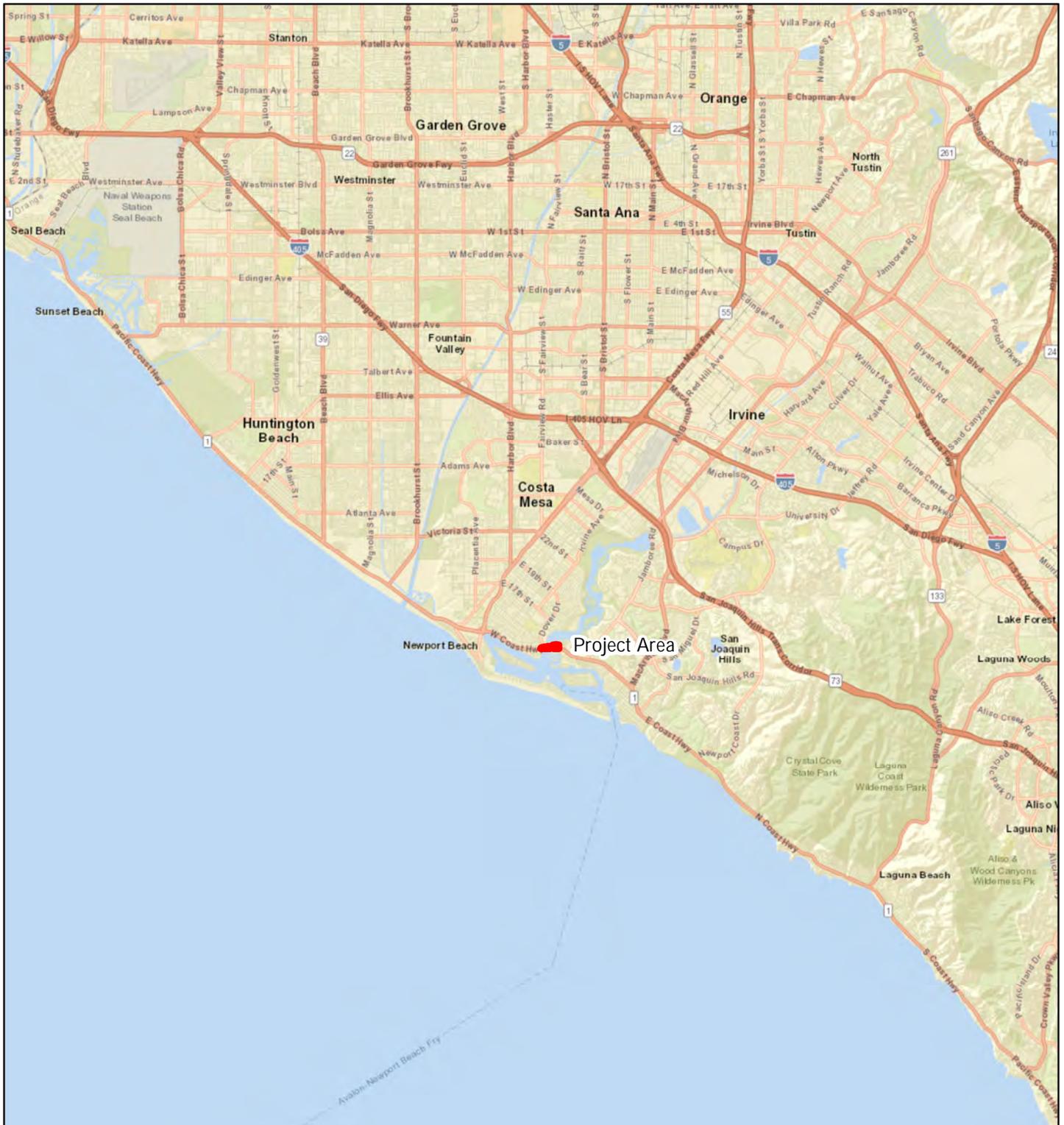


Curt Duke, M.A. RPA  
Archaeologist/President

Attachments: Attachment 1, Project Vicinity, Location, Aerial, and Geological Maps

## **ATTACHMENT 1**

### **Project Maps**



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

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Figure 1  
Project Vicinity Map

 Project Area



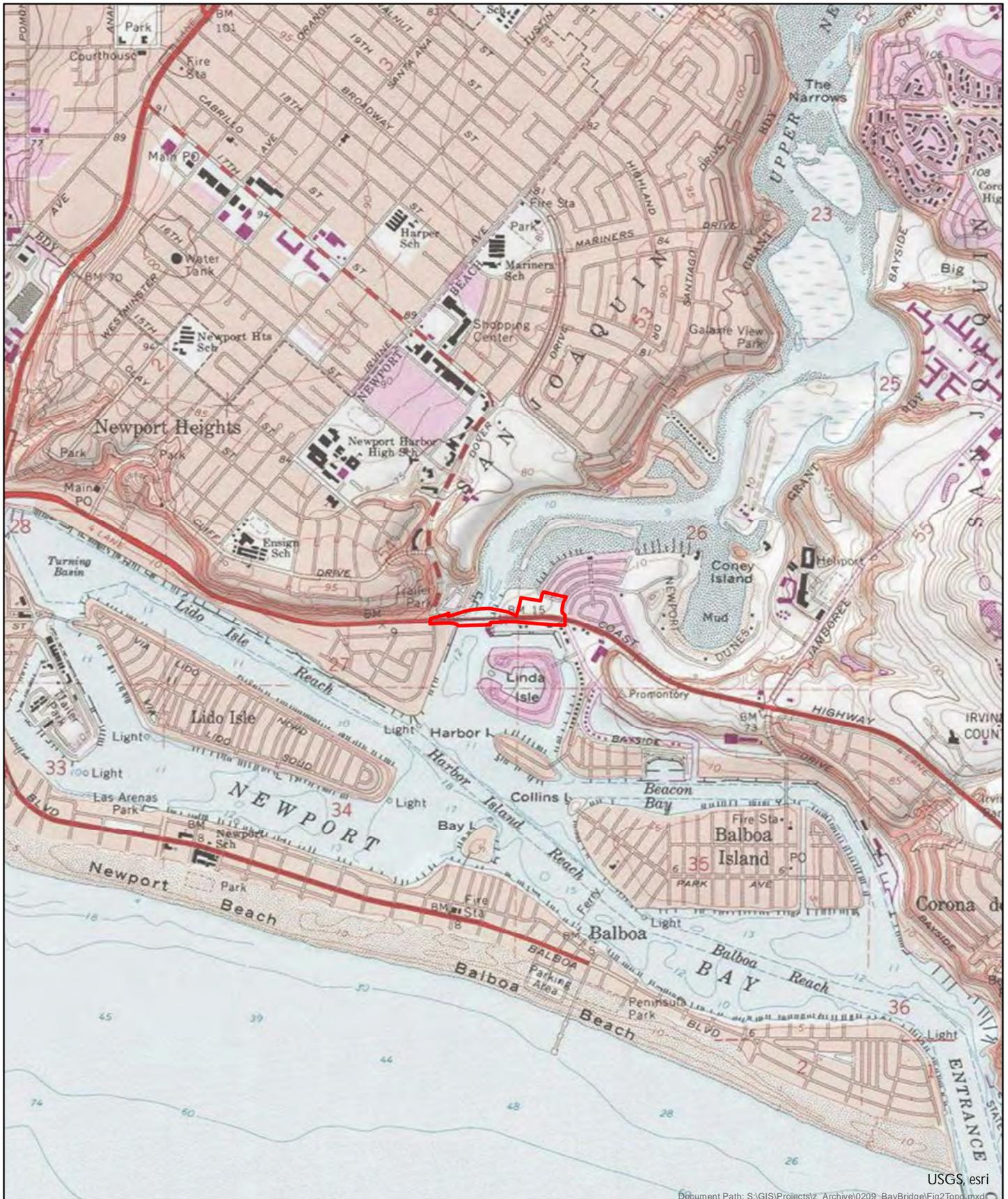
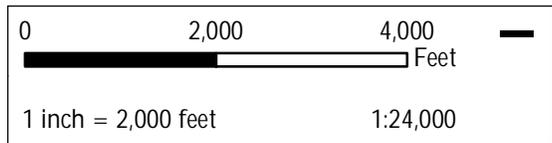


Figure 2  
Project Location Map

 Project Area



USGS, esri

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Figure 3  
Project Aerial Map



Project Area





May 25, 2017

Alan Ashimine  
Michael Baker, International  
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Irvine, CA 92618-2027

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Figure 1 - View to the east from Castaways Park showing proposed forced mains alignment.



Figure 2 - Location of proposed forced main crossing of PCH within Castaways Park west of channel. View to the south.



Figure 3 - Area of potential sensitivity on the north edge of Castaways Park. View to the north.



Figure 4 - View to the west. Entrance to the marina from Bayside Drive. Proposed pump house location to the right, out of frame.

## Impacts Analysis and Recommendations

### *Cultural Resources*

DUKE CRM evaluated the proposed project for impacts to cultural resources according to CEQA. Based on a lack of previously recorded prehistoric archaeological sites within the project boundary and the heavily disturbed nature of the soils from decades of construction and ground disturbance associated with road building and other commercial construction, the discovery of intact archaeological resources is unlikely. Due to the proximity of the work area within Castaways Park to ORA-186 on top of the bluff immediately north there is the very slight possibility of encountering cultural material that has eroded from the bluff within the park. Out of context materials have limited scientific value and most likely would not be significant cultural resources under CEQA. If encountered, these materials may have cultural value to the local Native American tribes. Given this preliminary information the sensitivity of this property for archaeological resources is considered low, meaning that there is little potential to impact archaeological resources. DUKE CRM does not recommend archaeological monitoring of the project property.

If previously unidentified cultural materials are un-earthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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3. If the paleontologist determines that sediment produced during earthwork operations is unlikely to contain recoverable fossils, no further monitoring will be required. If a fossil or suspected fossil is encountered during further ground disturbing activities, the following steps will be taken:
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  - d. The paleontological monitor, project paleontologist, construction foreman, or supervisor will be immediately notified.
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Sincerely,

**DUKE CULTURAL RESOURCES MANAGEMENT, LLC**

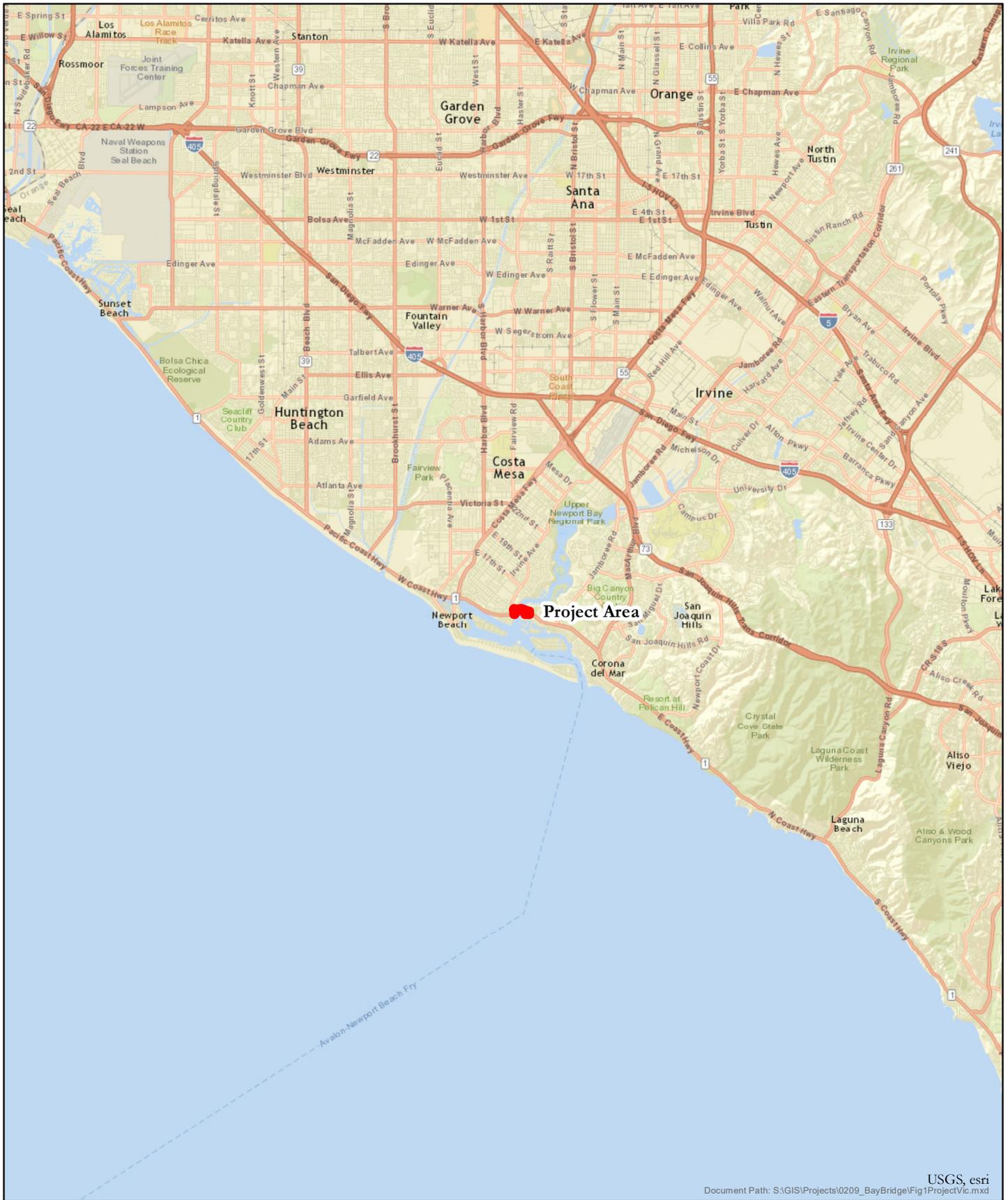


Curt Duke, M.A. RPA  
Archaeologist/President

Attachments: Attachment 1, Project Vicinity, Location, Aerial, and Geological Maps

**ATTACHMENT 1**

**Project Maps**

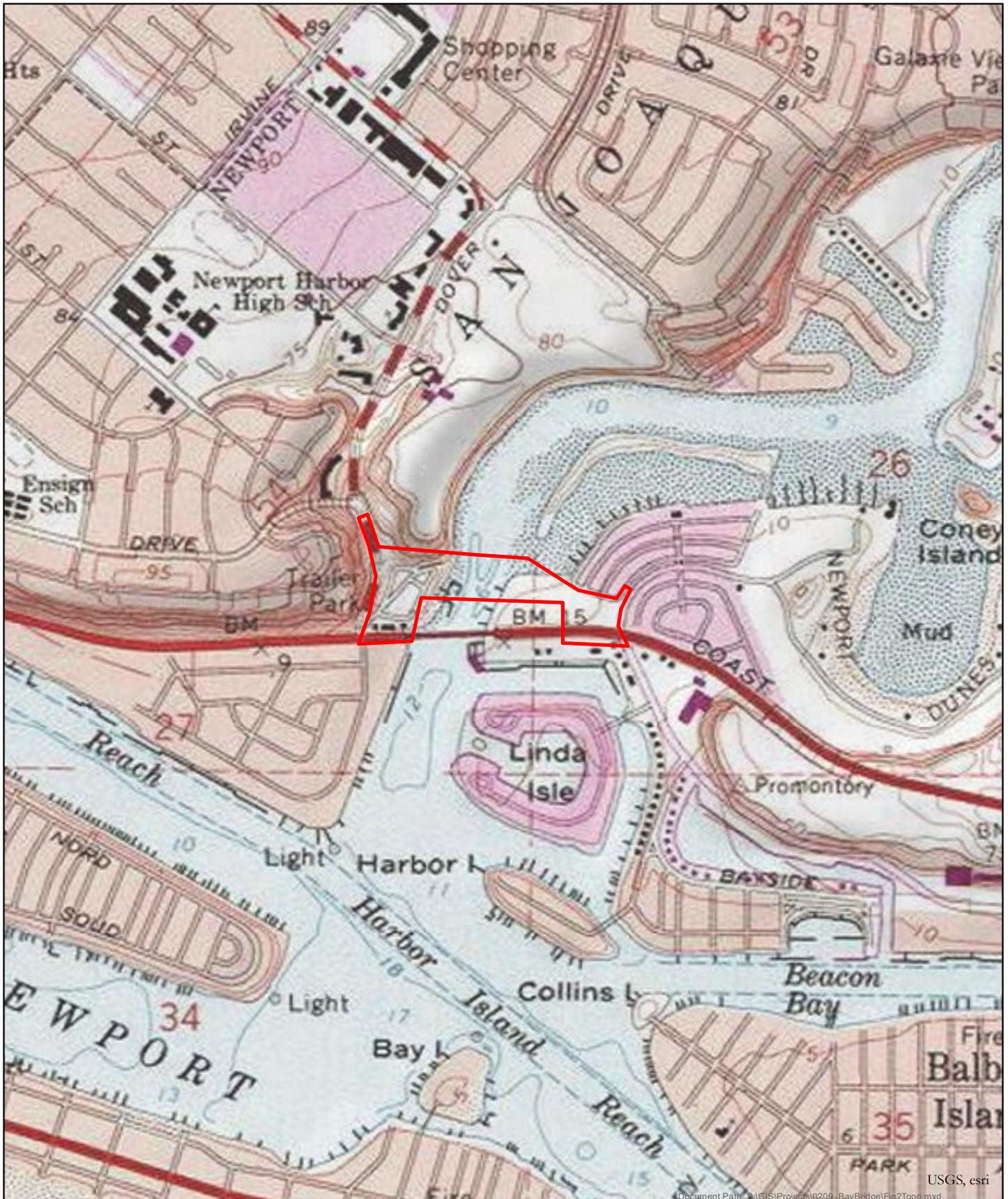


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**Figure 1**  
 Project Vicinity Map

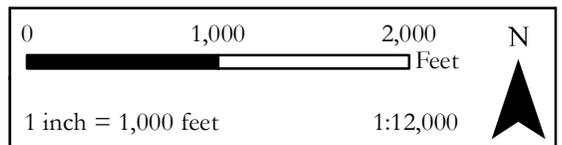
 Project Area





**Figure 2**  
Project Location Map

 Project Area



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**Figure 3**  
Project Aerial Map



Project Area

