

## **Appendix D - Environmental Constraints Analysis**

## MEMORANDUM

**DATE:** April 22, 2010

**TO:** Randy Andersen and Allan Calder, Alta Planning + Design

**FROM:** Megan Heileman and Kristin Granback, LSA Associates, Inc.

**SUBJECT:** Environmental Constraints Analysis  
San Quentin Area Bike and Pedestrian Study, Marin County, California

This memorandum presents the results of a preliminary environmental analysis conducted by LSA Associates, Inc. (LSA) for the above-referenced project in the San Quentin area of Marin County. The purpose of this analysis is to provide a summary of the environmental conditions and potential constraints along the proposed alternative alignments currently being evaluated in the San Quentin Area Bike and Pedestrian Study. This memorandum includes the following: (1) a description of the project purpose and need; (2) a description of the proposed project and the proposed alternative alignments identified by Alta Planning + Design (Alta); (3) a preliminary evaluation of the existing environmental constraints for each of the proposed alternatives, with a focus on biological, cultural and visual resources, hazardous materials, and temporary construction impacts; (4) a brief summary of the additional studies, approvals, or regulatory permits potentially required for the proposed alternatives; and (5) the anticipated level of State and federal environmental review.

## PROJECT PURPOSE

The San Quentin Area Bike and Pedestrian Access Study (study) is one of the top priority projects in Marin County (County) as described in the 2008 Marin County Unincorporated Area Bicycle and Pedestrian Master Plan, as well as a key gap identified in the San Francisco Bay Trail Gap Analysis Study. The purpose of the study is to identify opportunities to maximize safe bicycle and pedestrian access at the following locations:

- Sir Francis Drake Boulevard and Interstate 580 (I-580)
- Between the existing Shoreline Bay Trail in the City of San Rafael, the new viewing area near the Richmond-San Rafael Bridge, and Remillard Park in Larkspur
- Between the I-580 onramp at Main Street and the Andersen Drive/Sir Francis Drake Boulevard intersection
- Andersen Drive/Sir Francis Drake Boulevard intersection
- Between the I-580 on-ramp to the Richmond-San Rafael Bridge and the San Quentin State Prison entrance through San Quentin Village
- Access/egress to/from existing bus stops that provide service across the Richmond-San Rafael Bridge (which is closed to bicycles and pedestrians), and Main Street under I-580
- Main Street between I-580 and the entrance to San Quentin State Prison

## STUDY CONCEPTS

The study area is in the San Quentin area of Marin County, near the Richmond-San Rafael Bridge. The study area consists of a 1.5-mile-long corridor centered on East Sir Francis Drake Boulevard, is bounded by the Richmond-San Rafael Bridge to the east, and connects with the existing multi-use path at Remillard Park in the City of Larkspur to the west. To the north, the site connects with East Francisco Boulevard and the existing southern segment of the San Francisco Bay Trail at Jean and John Starkweather Shoreline Park in the City of San Rafael.

Two alternative pathway alignments (alternatives) are being evaluated in the study. Figures 1 and 2, contained at the end of this memorandum, depict the regional location and the two alternatives, as described below.

**Alternative 1.** Alternative 1 would include one segment that would meet California Department of Transportation (Caltrans) requirements for Class I multi-use facilities, and one segment that would meet Caltrans requirements for Class II bike lanes.

The Class I segment of Alternative 1 would be a two-way, center-striped, 10-foot-wide paved pathway that would accommodate bicyclists and pedestrians. This segment would run parallel to the southern side of East Sir Francis Drake Boulevard from the intersection with Drakes Cove Road eastward to the intersection with Andersen Drive. At the intersection of East Sir Francis Drake Boulevard and Andersen Drive, a tunnel would be constructed under the roadway to the north side of East Sir Francis Drake Boulevard. From there, this alternative would continue east onto the flyover crossing I-580 to the intersection of East Francisco Boulevard and Grange Avenue. The I-580 flyover would include a k-rail barrier for separation and safety. The intersection of Grange Avenue and East Francisco Boulevard would include two street corner crossings of East Francisco Boulevard.

The Class II segment would consist of bicycle lanes on both sides of the segment of East Francisco Boulevard that begins at the intersection with Grange Avenue (where the Class I segment would end) and continues east to the I-580 undercrossing just west of the Richmond-San Rafael Bridge. This segment would include a connection to the San Francisco Bay Trail. The Class II bicycle lanes would not accommodate pedestrians.

**Alternative 2.** Alternative 2 would be a two-way, center-striped, 10-foot-wide paved pathway that would accommodate bicyclists and pedestrians. Alternative 2 would run parallel to the southern border of I-580 and the northern border of Shoreline Band Park from the intersection of Andersen Drive and Sir Francis Drake Boulevard east to the intersection of I-580 and Main Street.

In addition to the two alternatives described above, this memo includes a cursory analysis of the segment of Main Street from I-580 to the entrance to San Quentin State Prison, and a slope area above East Francisco Boulevard. This cursory analysis is to help evaluate the potential for a new sidewalk along the Main Street segment, and a pathway access point from the slope above East Francisco Boulevard. These areas were not included in the field surveys described below, and a portion of the Main Street segment was not included in the cultural resources records search conducted for the study area.

## ENVIRONMENTAL ANALYSIS

This memorandum consists of the preliminary environmental analysis portion of the study, and includes an evaluation of the proposed alternatives in terms of the constraints related to biological,

cultural and visual resources, hazardous materials, and temporary construction impacts. This preliminary environmental analysis is based on a review of government records and available literature and field surveys conducted of the study area in February 2010. The study methods for each environmental topic are described below in more detail. A brief discussion of the potential level of subsequent environmental analysis, including the anticipated approvals or regulatory permits potentially required to complete the environmental review process, is provided at the end of this memorandum.

## Biological Resources

Prior to fieldwork, LSA searched the California Natural Diversity Database (CNDDDB) (CDFG 2010) for records of special-status species in the vicinity of the study area (i.e., San Quentin and San Rafael U.S. Geological Survey [USGS] 7.5-minute quadrangles). LSA wildlife biologist Matt Ricketts visited the study area on February 17, 2010 to examine existing habitat conditions and identify potential biological constraints within each of the proposed trail alternatives. The visit consisted of walking the proposed trail alignments while recording information on vegetation, wildlife, and potentially sensitive habitat features (e.g., drainages or wetlands under U.S. Army Corps of Engineers [Corps] and/or Regional Water Quality Control Board [RWQCB] jurisdiction) into field notes and an aerial photograph map of the project area. Below is a brief discussion of existing biological resources and potential biological constraints for each trail alternative. Special-status species and recommendations for further studies are addressed separately at the end of the section.

**Alternative 1.** Alternative 1 consists of three segments that differ in terms of vegetation (or lack thereof) and habitat value: (1) the south side of East Sir Francis Drake Boulevard extending from Remillard Park in Larkspur on the west to Andersen Drive on the east (Alternative 1 – Class I); (2) the existing off-ramp bridge from westbound I-580 to East Sir Francis Drake Boulevard (Alternative 1 – Class I); and (3) both sides of East Francisco Boulevard extending from Grange Avenue on the west to Main Street on the east (Alternative 1 – Class II). Vegetation within the first segment along the south side of Sir Francis Drake Boulevard primarily consists of non-native annual grasses and scattered ruderal broad-leaved plants (e.g., sweet fennel [*Foeniculum vulgare*], bristly ox-tongue [*Picris echioides*]) growing along the roadside. Ornamental trees or shrubs observed along this segment include coast live oak (*Quercus agrifolia*), cork oak (*Quercus suber*), cypress (*Cupressus* sp.), pine (*Pinus* sp.), and naigo tree (*Myoporum laetum*). A potentially native bunchgrass, possibly purple needlegrass (*Nassella pulchra*), was observed growing on the steep grassy slope below the road approximately 680 feet north of the west gate entrance to San Quentin State Prison; this area also contains several widely spaced cork oaks. The second segment (existing bridge over I-580) is entirely paved and devoid of natural vegetation except for a small area of annual grassland just east of where Andersen Drive enters East Sir Francis Drake Boulevard. Vegetation along the third segment (East Francisco Boulevard) is comprised almost entirely of planted ornamental trees and shrubs, although a few coast live oak and California bay (*Umbellularia californica*) trees in the middle portion of the segment (i.e., opposite I-580 on-ramp) may be remnants of the former natural woodland that likely occurred in this area. Ornamental trees and shrubs observed along this segment include coast live oak, Monterey pine (*Pinus radiata*), cotoneaster (*Cotoneaster* sp.), and bottlebrush (*Callistemon* sp.).

**Potential Constraints.** Potential biological constraints associated with Alternative I include nesting birds, protected trees, rare plants, and jurisdictional waters. The trees and shrubs along East Sir Francis Drake and East Francisco Boulevards provide nesting habitat for common native birds, the nests of which are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Several trees in the project area may also be protected under local and/or County tree protection ordinances, particularly along the north side of East Francisco Boulevard

where several large coast live oaks were observed. Although the majority of herbaceous vegetation observed during the field visit consisted of ruderal species, the potential presence of native bunchgrasses south of East Sir Francis Drake Boulevard adjacent to San Quentin State Prison suggests that this area may support other native plants. No obvious aquatic features subject to Corps and Regional Water Quality Control Board (RWQCB) jurisdiction were observed in the Alternative 1 segments, although one such feature is present immediately adjacent to the western end of the East Sir Francis Drake Boulevard segment in Remillard Park. An approximately 30-foot-wide ditch extending south from and perpendicular to East Sir Francis Drake Boulevard was filled with open water during LSA's site visit and contained hydrophytic plant species such as curly dock (*Rumex crispus*) and nutsedge (*Cyperus eragrostis*). The ditch appears to convey storm flows from the hillsides north of East Sir Francis Drake Boulevard via a culvert at the northern end of the ditch. Although it is currently unknown to what extent the project may affect this feature, it likely falls under both Corps and RWQCB jurisdiction and permits from these agencies would be required if the project were to result in any impacts. A few other constructed drainage ditches south of East Francisco Boulevard (e.g., just east of I-580 on-ramp, landscaped area between East Francisco Boulevard and bridge over I-580) may also fall under Corps and/or RWQCB jurisdiction, although a formal jurisdictional delineation by a qualified wetlands scientist would need to be conducted to clarify the extent and dimensions of jurisdictional features (see *Recommendations* below).

**Alternative 2.** Alternative 2 consists of a single segment along the south side of eastbound I-580 extending from the road cut opposite Andersen Drive on the west to Main Street (i.e., I-580 off-ramp) on the east. The majority of the segment is bordered by steep slopes to the south, several of which consist of rocky cliffs that appear to have been blasted out of the rock to facilitate road construction. The majority of these rocky cliffs are bare although annual grasses and ruderal species including the highly invasive pampas grass (*Cortaderia selloana*) are established in some places. The flat portions of the segment along the road are primarily bare, although a few areas support annual grasses and ruderal forbs similar to those observed south of East Sir Francis Drake Boulevard. The steep slope above the western portion of the segment supports a native coast live oak woodland with a dense understory of Himalayan blackberry (*Rubus discolor*) and French broom (*Genista monspessulana*), both of which are non-native species. Other native trees growing in this woodland include Pacific madrone (*Arbutus menziesii*) and California bay. A small patch of willows (*Salix* sp.) growing at the base of the slope just south of where the on-ramp merges with I-580 suggests the presence of a seep (i.e., a slow, natural discharge of water from rock or soil to the ground surface). Seeps are typically considered wetlands by the Corps and RWQCB, although the Corps does not always exert jurisdiction if federal or interstate commerce is not affected (the RWQCB usually does exert jurisdiction). East of mile marker 3.23, the slope becomes increasingly dominated by French broom with few native trees. The flatter, central portion of the segment consists of a large roadside pull-out area that is highly disturbed and primarily devoid of vegetation. A small drainage to the west of this pull-out (likely outside the proposed trail alignment) supports numerous willows and is likely under Corps and RWQCB jurisdiction.

**Potential Constraints.** Potential biological constraints associated with Alternative 2 include nesting birds, protected trees, and jurisdictional waters. The trees and shrubs on the slope above the I-580 on-ramp provide nesting habitat for native birds and several of the native trees may be protected by local and/or County tree protection ordinances. As mentioned above, the willow patch at the base of the slope near the I-580 on-ramp may indicate the presence of a seep, which may fall under Corps and/or RWQCB jurisdiction. Avoidance of the seep would likely be

impracticable if this alternative were selected since it is located in the portion of the slope that would likely have to be excavated to accommodate a new pathway.

**Main Street Segment and Slope Access.** Although LSA did not visit this area on foot during its reconnaissance survey, a review of Google Earth aerial photography for this area suggests that the primary constraints would be nesting birds, based on the presence of several trees along the street, and potentially rare plants, based on the grassy, undeveloped slope southwest of the I-580 off-ramp onto Main Street. No obvious aquatic features potentially subject to Corps jurisdiction are visible along Main Street on the aerial photo, although this cannot be confirmed without an additional site visit.

**Special-status Species.** Many of the special-status plant species known to occur in Marin County are associated with chaparral, serpentine soils, coniferous forest, and/or tidal marsh, none of which are present adjacent to the proposed alternatives. In general, the proposed alternative alignments are highly disturbed or developed and do not contain suitable natural substrates that enable the growth of special-status plants. One exception to this is the above-mentioned grassy slope below East Sir Francis Drake Boulevard and above San Quentin State Prison that supports an unidentified bunchgrass that may be native. Although the slope appears to have been graded as supporting fill during the construction of East Sir Francis Drake Boulevard, there may be remnant native soils enabling the persistence of native bunchgrasses and other plants that may or may not have special regulatory status. LSA recommends that this area be surveyed by a qualified botanist to ascertain the potential presence of special-status plants (see *Recommendations* below).

LSA searched the CNDDDB (CDFG 2010) for a list of records of special-status species identified along the alternative alignments, Main Street segment and surrounding vicinity. No special-status animal species were observed during LSA's site visit and none are expected to occur due to the absence of suitable habitat (e.g., streams, ponds, tidal marsh). Several special-status tidal marsh species, including the federally endangered California clapper rail (*Rallus longirostris obsoletus*) and salt-marsh harvest mouse (*Reithrodontomys raviventris*), are known to occur nearby in the Corte Madera Ecological Preserve, but no such habitat is present in the immediate vicinity of the proposed trail alignments. Special-status raptor species such as northern harrier (*Circus cyaneus*; California Species of Special Concern) and white-tailed kite (*Elanus leucurus*; California Fully Protected Species) are not expected to occur due to the lack of extensive open habitats (e.g., grasslands, marshes, fields) that provide ample foraging opportunities.

**Recommendations.** To address the constraints identified above, LSA recommends the following once the preferred alternative has been identified:

- To determine the extent of Corps jurisdiction within the study area, a formal delineation of waters of the United States should be conducted by a qualified wetlands scientist using standard methods from the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The results of the delineation would enable project planners to avoid jurisdictional features or to more precisely define impacts to such features for the purposes of obtaining permits from the Corps and/or RWQCB.
- To identify the number and location of protected trees (i.e., trees protected under local and/or County ordinances based on species, size, or other parameters) within the project area, a formal tree inventory should be conducted by an International Society of Arboriculture (ISA) Certified Arborist. The resulting arborist report would include a table listing the species, health, size, and status of all trees in the project area and recommendations for the removal and/or preservation of

specific trees. This information could be incorporated into project plans and construction drawings and would facilitate the project planning and design process.

- To assess the potential presence of special-status plant species on the grassy slopes between East Sir Francis Drake Boulevard and San Quentin State Prison properties and southwest of the I-580 off-ramp/Main Street intersection, a qualified botanist should conduct a botanical survey of these areas during the spring (approximately March–June), which corresponds with the blooming period for most special-status plants in the Bay Area. The survey should be conducted in accordance with California Department of Fish and Game (CDFG) protocols (CDFG 2009).
- To avoid impacts to nesting birds, preconstruction surveys should be required prior to any vegetation removals associated with the project. Required survey methods need not be defined at this time, but typically nest surveys are conducted within 15 to 30 days prior to any vegetation removal activities conducted during the nesting season (approximately February 15 to August 15).
- If federal funding is utilized to implement any of the proposed alternatives, or if the proposed pathway alignments encroach on Caltrans right-of-way (i.e., I-580), a Natural Environment Study should be prepared in accordance with Caltrans requirements.

### Cultural and Paleontological Resources

LSA conducted a cultural and paleontological resources constraints study that consisted of a records search, literature review, contact with the Native American Heritage Commission, pedestrian survey, and a fossil locality search. Each step is described below, and potential constraints and recommendations are described.

**Records Search.** On January 8, 2010, LSA conducted a records search (File #09-0851) of the study area and a ¼ mile radius at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park. The NWIC is the official state repository of cultural resource records and reports for Marin County. The records search included the two alternatives and the slope access point, but did not include the entire Main Street segment. As part of the records search, the following federal and State of California inventories were reviewed:

- *California Inventory of Historic Resources* (California Department of Parks and Recreation 1976);
- *Five Views: An Ethnic Historic Site Survey for California* (California Office of Historic Preservation 1988)
- *California Points of Historical Interest* (California Office of Historic Preservation 1992);
- *California Historical Landmarks* (California Office of Historic Preservation 1996);
- *Directory of Properties in the Historic Property Data File* (California Office of Historic Preservation, October 29, 2009). The directory includes the listings of the National Register of Historic Places, National Historic Landmarks, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

The record search identified three archaeological sites and one historic building within or adjacent to the study area. These resources include:

- CA-MRN-79/P-21-000536, a prehistoric archaeological site depicted as partially in the project area consisting of shell midden. It is not known at this time whether CA-MRN-79/P-21-000536 qualifies as a significant resource under CEQA or NEPA, or whether it constitutes a historic property under Section 106 of the National Historic Preservation Act (Section 106);
- CA-MRN-603/P-21-000529, a prehistoric archaeological site adjacent to the project area consisting of shell midden. It is not known at this time whether CA-MRN-603/P-21-000529 qualifies as a significant resource under CEQA or NEPA, or whether it constitutes a historic property under Section 106;
- CA-MRN-255/H/P-21-000541, an archaeological site adjacent to the project area consisting of a prehistoric shell midden and a historical brick kiln. It is not known at this time whether CA-MRN-255/H/P-21-000541 qualifies as a significant resource under CEQA or NEPA, or whether it constitutes a historic property under Section 106; and
- P-21-002649, the Marin Rod and Gun Club Pier, a historic building adjacent to the project area. A previous evaluation indicates that this is not eligible as a historical resource under CEQA (Autry 2004). Although a formal evaluation of the resource has not occurred for the purposes of NEPA or Section 106, it is unlikely that P-21-002649 would qualify as a significant resource or historic property.

The record search indicated that seven cultural resource studies were previously conducted in portions of the study area, and one cultural resource study was conducted adjacent to the study area. These studies include:

#### *Studies in the study area*

- *Archaeological Survey for Pipeline and Water Treatment Plant Facilities, Marin County.* (Holman and Associates, 1978). This linear survey area runs in an east/west direction through the northeastern portion of the project area, and identified no cultural resources in the study area.
- *Archaeological reconnaissance for proposed development by the Marin County Planning Department* (Archaeological Consulting and Research Services, Inc. 1978). The northern half of this survey area overlaps a small portion of the southeastern portion of the study area. No cultural resources were identified within the study area.
- *A Cultural Resource Reconnaissance within the East San Rafael Baylands* (Mark Rudo 1979). The southern portion of this study area partially overlaps a small area in the northern portion of the project area. No cultural resources were identified in the study area.
- *Monitoring of Geological Test Borings and Preliminary Archaeological Testing on Point San Quentin* (Archeo-Tec Inc. 1980). This study area partially overlaps a small portion of the northern study area. These test borings were monitored for both data gathering purposes and for purposes of cultural resource protection. Two isolated artifacts were identified in boring pits within the boundaries of CA-MRN-79/P-21-000536: a complete oyster shell and a small fragment of non-human animal bone.
- *Archaeological Resources Evaluation for a Proposed Roadway Extension Project on Andersen Drive* (David Chaves 1982). The very southern portion of this study partially overlaps a small portion of the northern study area. No cultural resources were identified in the study area.



- *A Cultural Resource Evaluation of a Proposed Reclaimed Water Pipeline* (William Roop 1991). This linear survey area runs in an east/west direction through the western portion of the study area. No cultural resources were identified in the study area.
- *Historical Resource Assessment of the Marin Rod and Gun Club Pier* (Marjorie Dobkin 1991). This study area partially overlaps the western portion of the study area. One cultural resource was identified: P-21-002649, the Marin Rod and Gun Club Pier.

*Study adjacent to the project area:*

- *Archaeological Survey for the Richmond-San Rafael Bridge Seismic Retrofit Project* (James M. Allen 2004). This study is adjacent to the eastern boundary of the study area. No cultural resources were identified.

**Literature Review.** LSA reviewed the following publications, maps, and websites for archaeological, ethnographic, historical, and environmental information about the study area and its vicinity. The Main Street segment and slope access point were not included in this review.

- *California Place Names* (Gudde 1998);
- *Historic Spots in California* (Hoover et al. 1990);
- *Handbook of the Indians of California* (Kroeber 1925);
- *Handbook of North American Indians: Coast Miwok* (Kelly 1978);
- *Map of San Francisco Bay Region Showing Distributions of Shell Heaps* (Nelson 1910);
- *San Francisco, Calif.*, 15-minute topographic quadrangle (USGS 1915);
- *San Quentin, Calif.*, 7.5-minute topographic quadrangle (USGS 1995);
- *San Rafael, Calif.*, 7.5-minute topographic quadrangle (USGS 1999);
- *Plat of Rancho Punto de Quentin* (Benjamin R. Buckelew 1858).

Nels C. Nelson's (1910) map depicts one shellmound within the boundaries of the study area. The map also depicts multiple shellmounds in similar coastal areas around the San Pablo Bay, indicating a sensitivity for additional, unrecorded prehistoric resources in the portions of the study area adjacent to the bayshore.

Punta de Quentin (Point Quentin) was named after the Indian namesake of a Roman officer who left his post and became a Christian missionary (Gudde 1998). Quentin the Indian was known by some as a thief, and by some as an Indian sub-chief, whom Vallejo praised for having excellent navigational acumen. Point San Quentin was named as such because it is where Quentin was finally captured in 1824 (Gudde 1998). The name *Punta Quintin* was applied to a land grant in 1840 to John Bautista Cooper, but he did not have the rancho for very long (Gudde 1998, Hoover et al. 1990). The 'San' was then added and the spelling changed, probably around the same time as the 1940 land grant (Hoover, et al. 1990).

San Quentin prison began in 1853. It was commissioned for incarcerating prisoners who were previously housed on ships anchored at Angel Island (Hoover et al. 1990). The prison was built on a site which was intended to become Marion City, but the plan was never realized and the city never built (Hoover et al. 1990).

The Rancho Punta de Quentin was confirmed to Benjamin R. Buckelew in 1858. A plat map of the 1858 Rancho depicts a “house” mapped where the current prison facility is located, and depicts a “mill” at the tip of the peninsula near the terminus of the present day Richmond Bridge.

**Contact with Native American Organizations.** On January 11, 2010, LSA sent a letter describing the project with maps depicting the study area to the Native American Heritage Commission (NAHC) in Sacramento asking the Commission to review their Sacred Lands File for Native American cultural resources that might be affected by the proposed project. The NAHC replied on January 13, 2010, that the review did not indicate the presence of Native American cultural resources in the study area. The Main Street segment and slope access point were not specifically included in the NAHC request. However, because the NAHC search is done by USGS quadrangle, these areas are within the search radius, and it can be stated that no cultural resources included in the Sacred Lands File are in the study area.

**Pedestrian Survey.** LSA archaeologist Theadora Fuerstenberg conducted a pedestrian survey of the western portions of the study area along the north and south sides of East Sir Francis Drake Boulevard, and a reconnaissance survey of the eastern portions of the study area located on the south side of I-580 eastbound and the north side of East Francisco Boulevard on February 9, 2010. The area identified by the records search as archaeologically sensitive was closely inspected. Areas of land adjacent to I-580 that could not be accessed due to safety hazards posed by freeway traffic were inspected visually from a safe vantage point, which constituted the reconnaissance survey. The Main Street segment was not included in the pedestrian survey. Small areas of soil surface within the pedestrian survey area where rodent burrows occurred were examined for possible archaeological deposits. The survey was documented with field notes, photographs, and maps.

Areas where cultural resources were identified by the records search were field reviewed. The results are presented below.

#### *Alternative 1, Class I Segment*

- CA-MRN-79/P-21-000536. The record search identified this prehistoric archaeological site in the northern segment of the study area. The site is located directly north of the portion of the Alternative 1 Class I segment that is located north of the I-580 east exit ramp. The field survey identified no archaeological materials in the portion of the Alternative 1 Class I segment that runs contiguous to this site, the boundaries of which are depicted by the NWIC.

The following additional cultural resources were identified during the pedestrian portion of the survey:

#### *Alternative 1, Class I Segment*

- *Brick fences.* Two approximately 8-inch-thick and 8-inch-tall historic brick fences were identified with a combined length of approximately 98 feet in an east/west direction, located 10 feet south of East Sir Francis Drake Boulevard and directly east of the intersection of East Sir Francis Drake Boulevard and Main Street.
- *Brick feature.* A 3.2-foot-long by 32-foot-wide portion of the ground 20 feet south of the eastern brick fence is overlaid by a single layer of bricks. They appear to be the same type of bricks used for the fences.

**Fossil Locality Search.** A fossil locality search of the study area and a 10-mile radius was conducted at the request of LSA on January 11, 2010, by Dr. Pat Holroyd of the University of California Museum of Paleontology (UCMP), Berkeley. The purpose of this search was to (1) identify previous studies and known paleontological sites within and near the project area; and (2) identify the geologic formations and types of fossils that might be expected within and adjacent to the study area based on the existing geological and paleontological data.

The fossil locality search indicated that no recorded fossil localities are in the study area. The Main Street segment and slope access point were not specifically included in the fossil locality search request. However, because the UCMP search is done by USGS quadrangle, these areas are within the search radius, and it can be stated that no fossil localities are in the Main Street segment and slope access point.

Geological deposits within the study area consist of Holocene bay mud. Helley et al. (1979) described this Holocene deposit as wet plastic clay or silty clay which can be rich in organic materials. It contains fresh and brackish-water gastropod and pelecypod shells. It is usually found 8 feet below sea level and varies in thickness from 1' to 120' beneath the bay. It also contains Holocene molluscan fossils. This is the only cited soil deposit depicted for the area surrounding San Quentin Point.

**Potential Constraints.** The study indicates that construction associated with the Alternative 1, Class II pathway is not anticipated to result in adverse effects to cultural resources because previous development in the alignment makes it unlikely that new construction would result in impacts to areas that have not been previously disturbed. The proposed alternatives are not expected to impact paleontological resources due to the nature of the geological deposits. Visual impacts are also not expected to occur because of the minor visual signature of the pathways and associated features.

Several constraints are associated with ground-disturbing construction for the Alternative 1, Class I pathway segment and the Alternative 2 pathway. These constraints involve the potential to disturb intact archaeological deposits, and are described below.

- Construction associated with the Alternative 1, Class I pathway segment has the potential to result in the disturbance of prehistoric archaeological deposit CA-MRN-79/P-21-000536. The alignment may partially overlap the boundary of CA-MRN-79/P-21-000536 as depicted at the NWIC. Although the pedestrian survey did not identify surface indications of archaeological materials, it is possible that the site deposit is subsurface and was obscured by overlying soils. CA-MRN-79/P-21-000536 may qualify as a historical or unique archaeological resource under CEQA or NEPA, or as a historic property under Section 106. If the site did qualify as such, its disturbance by project construction could result in a significant impact under CEQA.
- Construction associated with Alternative 1, Class I pathway segment has the potential to result in the disturbance of the brick fence and brick feature. The alignment is currently situated directly in the area containing these features. If these features qualify as historical or unique archaeological resources under CEQA, their disturbance by project construction could result in a significant impact under CEQA. Similarly, if the features qualify as a historic property, their removal would constitute an adverse effect under Section 106.
- Construction associated with Alternative 2 has the potential to result in the disturbance of prehistoric archaeological deposits because it will occur in an area that possesses similar environmental characteristics as other locations along the San Pablo Bay margin that contain shell midden sites. If such sites were present in the alignment and qualified as historical or unique archaeological resources under CEQA, their disturbance by project construction could result in a

significant impact under CEQA. Similarly, if the sites qualify as historic properties, their destruction or disturbance would constitute an adverse effect under Section 106.

- Construction associated with the Main Street segment has the potential to result in the disturbance of prehistoric archaeological deposits because it would occur in an area that possesses similar environmental characteristics as other locations along the San Pablo Bay margin that contain shell midden sites. If such sites were present in the alignment and qualified as historical or unique archaeological resources under CEQA, their disturbance by project construction could result in a significant impact under CEQA. Similarly, if the sites qualify as historic properties, their destruction or disturbance would constitute an adverse effect under Section 106. Construction in the slope access point has a low potential to result in the disturbance of prehistoric archaeological deposits due to the previous modification of the area for modern development.
- Construction associated with the Main Street segment has the potential to result in addition of circulation features that may detract from the architectural context, visual setting, or traditional land uses of Main Street and adjoining properties. If Main Street and the adjoining properties possessed historical significance, and if such significance were impaired by the construction of project improvements, a significant impact under CEQA could occur. Construction in the slope access point has a low potential to result in structures that detract from the architectural setting because that context is already compromised by modern construction and additions.

**Recommendations.** To address the constraints identified above, LSA recommends the following once the preferred alternative has been identified:

*CA-MRN-79/P-21-000536*

- Presence/absence archaeological investigation should occur to determine if archaeological deposits associated with CA-MRN-79/P-21-000536 extend into the alignment for the Alternative 1, Class I segment, and, if so, whether project construction would occur at a depth at which the deposits would be disturbed. If such deposits are present and would be disturbed, an archaeological evaluation should be conducted to determine if the deposit is eligible for listing in the California Register of Historical Resources (CRHR). If federal funding, approvals, or permitting is involved, the project will likely need to comply with Section 106, in which case the potential eligibility of the site for listing in the National Register of Historic Places (NRHP) would need to be addressed. The National Register results would inform a NEPA assessment, as well. If the deposit is not eligible for the CRHR and the NRHP, no further study or protection is necessary. If the deposit is eligible, and if impacts cannot be avoided, archaeological data recovery should be done to offset the loss of scientifically consequential information contained in the deposit.
- The Native American community should be contacted and consulted regarding the investigations described above. The Native American community should play a role in the identification of deposits, the evaluation of CRHR and NRHP eligibility, the assessment of impacts, and the development of mitigation options. Impact avoidance through project redesign is the preferred means of addressing possible effects, and this should be considered in consultation with the Native American community. The efforts to contact the Native American community and solicit input regarding the potential for impacts should be documented in the project's CEQA document.

*Historical Features*

- If the brick fences and brick feature identified in the pedestrian survey will be removed by the project, a significance evaluation should occur to determine if these features are eligible for listing in the CRHR and NRHP. If the features are not eligible for the CRHR and NRHP, no further study or protection is necessary. If the features are eligible, and if impacts cannot be avoided, documentation of the features should occur to offset their loss. Such documentation could include photography, recordation on Department of Parks and Recreation 523 Series forms, and submittal of materials to a historical organization.

### *Report Documentation*

- If federal funding, approvals, or permitting are needed to implement the proposed project, compliance with Section 106 will be required. This would entail the identification of historic properties in the Area of Potential Effects, the assessment of adverse effects to any such properties, and the resolution of said adverse effects. Consultation between the federal agency, the California State Historic Preservation Officer, and tribal groups and other interested parties would be necessary to comply with the regulations at 36 CFR Part 800, which implement Section 106. If the proposed pathway alignments encroach on Caltrans right-of-way (i.e., I-580), Caltrans-specific documentation may be required, which may include CEQA-level cultural resources documentation such as a Historical Resources Compliance Report and associated archaeological study. If federal funding is involved, the Caltrans documentation would need to comply with the requirements of the *Programmatic Agreement Among The Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Caltrans 2004). Documents associated with the programmatic agreement could include a Historic Property Survey Report and Archaeological Survey Report, as well as a Historic Resources Evaluation Report if the project affects historical features (e.g., the brick fences and brick feature). Subsurface testing and reporting documentation may be required in accordance with Caltrans requirements to determine if archaeological deposits associated with CA-MRN-79/P-21-000536 extend into the alignment for the Alternative 1, Class I segment.

### *Main Street Segment and Slope Access Point*

- Prior to project implementation, a cultural resources study should be conducted for the Main Street segment and the slope access point to identify resources, assess potential impacts, and recommend feasible mitigation measures for significant impacts. In particular, the Main Street segment study should account for the potential effects of project construction on the architectural character and streetscape of Main Street and adjoining properties.
- Report documentation for Section 106 compliance (described above) should also apply to the Main Street segment and the slope access point in the event that federal funding, approvals, or permitting are needed.

## **Visual Resources**

Alternative 1 travels from west to east along Sir Francis Drake Boulevard with grassy hillsides to the north and scenic bay views to the south. A ponded drainage also occurs to the south of this section of the alignment. Beyond the first curve, residential development is located to the south of the alignment. In the vicinity of the I-580 flyover, San Quentin Prison is visible to the south, and I-580

and a vegetated hillside (Shore Band Park) are visible to the north. Along East Francisco Boulevard, industrial development is visible to the north, and a vegetated strip and I-580 are visible to the south. The San Francisco Bay Trail, the Bay shoreline, and the Richmond-San Rafael Bridge come into view as Alternative 1 approaches its eastern terminus at Main Street. Native and introduced shrubs and trees, and non-native annual grassland occur all along the Alternative 1 alignment (See *Biological Resources* discussion for details).

As Alternative 2 travels east along I-580 from its western terminus at the intersection of East Sir Francis Drake Boulevard and Andersen Drive, I-580 is visible to the north and a steep, vegetated slope is visible to the south (Shore Band Park). Vegetation includes coast live oak, willows, introduced shrubs and annual grasses (see *Biological Resources* discussion for more details). There is also a drainage seep along the south side of the alignment.

From the eastern terminus of the Main Street segment (at I-580), Shoreband Park is visible to the north and San Quentin facilities are visible to the south. Continuing west, residential housing is visible to the north, and the San Francisco Bay comes into view to the south. Near the entrance to San Quentin State Prison, there is residential development to the north of Main Street, and a large parking lot to the south.

No scenic highways are currently designated in Marin County according to the California Scenic Highway Mapping System (Caltrans 2007). However, the County contains Eligible State Scenic Highways, including State Route 1, and portions of State Route 37 and U.S. 101. I-580, located in adjacent to the alternatives, is not designated as an Eligible State Scenic Highway.

Project construction would include grading and excavation of slopes and construction equipment that would have a temporary impact on visual resources. The alternatives would be constructed at-grade, and no environmental constraints related to visual resources are anticipated after project completion, assuming that the pathways and any associated features are constructed to blend in with the existing setting and enhance opportunities for experiencing existing scenic viewsheds. As described in the *Biological Resources* discussion above, a tree inventory should be conducted, and any tree removals should be mitigated in accordance with applicable local and/or County ordinances.

## **Hazardous Materials**

**Environmental Records Search.** A search of environmental records was conducted using Environmental Data Resources, Inc. (EDR 2009). The search area included Alternatives 1 and 2, the Main Street segment, the slope access point, and a radius around them ranging from ¼ mile to 1 mile, depending on the database.

The records search revealed a total of 37 hazardous materials sites in the project area, many of which were listed on multiple databases. Thirty-nine additional sites were found in the records search, but there was insufficient location information to map them.

Only two mapped sites were along a proposed alternative alignment. These are summarized below:

- *Pacific Bell, 2131 Francisco Boulevard.* This site is located along the north side of the Alternative 1, Class II segment, and is listed on the Resource Conservation and Recovery Act Small Quantity Generator list (RCRA-SQG) and the Environmental Protection Agency Facility Index System (FINDS) as a small quantity generator of hazardous waste. Small quantity

generators generate more than 100 and less than 1000 kg of hazardous waste per month. No violations have occurred.

- *Ghilotti Dump, 1850 E. Francisco Boulevard.* This site is located along the north side of the Alternative 1, Class II segment, and is listed on the Historical Underground Storage Tank Registered Database (HIST UST) database. The listing is for two underground storage tanks for diesel that are no longer in operation. This site is historical and inactive.

In addition, the San Quentin State Prison at 1 Main Street, near the Main Street segment, is listed by the Marin County underground storage tank (UST) database for three USTs containing petroleum fuels. No violations have been reported.

**Potential for Contaminant Migration.** EDR's GeoCheck Physical Setting Source Addendum is used to assess the potential for contaminant migration from hazardous materials sites. The assessment is based on groundwater flow direction and flow velocity, which is determined by the topography, hydrology, and hydrogeology of the study area.

The elevation of the project area ranges from 0 to 213 feet, with an average of 76 feet. The geology of the study area consists of a Cenozoic Era Tertiary System of the Pliocene Series. The study area contains Class C soils consisting of loam and clay loam with slow infiltration rates. Groundwater flows to the northwest and west in the vicinity of the majority of the mapped hazardous materials sites, most of which are located north of the study area.

**Historic Photographs and Maps.** A review of historic aerial photos revealed that land uses in the study area have been similar to current land uses since at least the 1960s. San Quentin State Prison appears in a photo dated 1946, and I-580 first appears in its current configuration in a photo dated 1965. The waterfront to the northeast of the study area also begins to be filled in by 1965, and is similar to its current configuration by 1975. Thus, land uses have not substantially changed in the study area in at least the last 45 years.

A review of historic topographic maps reveals that the topography of the study area has not changed since 1915, and reaffirms that land uses in the study area have not changed significantly since the 1960s.

**Field Survey.** LSA staff conducted a field survey of the study area, excluding the Main Street segment, on February 16, 2010 in order to determine the presence or absence of any hazardous materials along the alternatives. The site survey was conducted on foot and by vehicle. Project plans and aerial photographs were used to identify the alternatives in the field.

Land uses observed in the study area included open space, residential development, industrial development, San Quentin State Prison, I-580, and local roadways. No aboveground storage tanks, spills or other evidence of hazardous waste or materials contamination were observed along the alternatives.

**Potential Constraints.** The 37 hazardous materials sites listed on the databases are unlikely to result in constraints to implementing the proposed alternatives, slope access point or the Main Street segment, based on distance from the alternatives and Main Street segment and a low potential for contaminant migration. Of the two sites along the Alternative 1, Class II segment, one is inactive and historic, and the other is a small quantity generator of hazardous materials with no violations reported. These two sites are unlikely to adversely impact the Alternative 1, Class II segment. The USTs at 1

Main Street near the Main Street segment also has no reported violations, and are unlikely to constrain development of a new sidewalk. The remaining sites are not located adjacent to the alternatives or the Main Street segment. Contaminant migration from the hazardous materials sites is unlikely due to site topography, ground water flow velocity, and ground water flow direction. All of the mapped hazardous materials sites are at a lower elevation than the alternatives, except one, so that the sites tend to drain away from the alternatives, towards lower elevations. Groundwater infiltration rates are slow based on the soil types in the project area. Groundwater flows northwest and west in the vicinity of the majority of the mapped hazardous materials sites, whereas the alternatives are to the south of the majority of the sites.

Alternative 1 runs along East Sir Francis Drake Boulevard and East Francisco Boulevard, and Alternative 2 runs adjacent to I-580. Based on historic aerial photographs, East Sir Francis Drake Boulevard, I-580 and Main Street have supported vehicle traffic since at least the 1940s, and East Francisco Boulevard has supported vehicle traffic since at least the 1960s. Due to this vehicular traffic, the soils along East Sir Francis Drake Boulevard, East Francisco Boulevard, I-580 and Main Street are likely contaminated with lead from exhaust of cars burning leaded gasoline. The soils adjacent to the roadways may also be contaminated with petroleum hydrocarbons. Construction work adjacent to East Sir Francis Drake Boulevard, East Francisco Boulevard, I-580, or Main Street could pose a hazard to worker safety or the environment, as well as to San Quentin State Prison employees and visitors.

**Recommendations.** The following measures should be taken to protect worker health and safety from contaminated soils along roadways.

- If federal funding is utilized to implement the proposed project, or if the proposed pathway alignments encroach on Caltrans right-of-way (i.e., I-580), an Initial Site Assessment and soil testing for lead and petroleum hydrocarbons may be required.
- A project specific health and safety plan (HSP) should be prepared to minimize worker exposure to lead and petroleum hydrocarbon impacted soil, if soils adjacent to I-580, East Sir Francis Drake Boulevard, East Francisco Boulevard, or Main Street would be disturbed during project construction.

### **Construction Impacts**

**Air Quality.** The proposed alternatives would not result in any long-term adverse impacts to air quality. No long-term stationary source emissions from energy consumption such as natural gas and electricity usage would occur as a result of the proposed alternatives, slope access point or Main Street sidewalk. The proposed alternatives, slope access point and Main Street sidewalk would not generate any new vehicle trips after completion. Therefore, no long-term regional emissions would be associated with the proposed alternatives, slope access point or Main Street sidewalk. The proposed alternatives and Main Street sidewalk could have a beneficial effect on air quality by encouraging walking and bicycling, thereby reducing the number of vehicle trips.

Construction of the proposed alternatives, slope access point, and Main Street sidewalk would result in temporary impacts to air quality. Construction impacts would include dust generated during grading operations and other construction activities; exhaust emissions from construction-related equipment and vehicles; and relatively minor emissions from asphaltic materials and paint used in



restriping. Air quality emissions could adversely impact sensitive receptors in the project area, including residences and San Quentin State Prison employees and visitors.

**Water Quality and Storm Water Runoff.** There are seasonally ponded drainages adjacent to Alternative 1 on East Sir Francis Drake Boulevard and East Francisco Boulevard, and near Alternative 2 along I-580. East Francisco Boulevard and Main Street are near the San Francisco Bay. Construction of the alternatives would cause disturbances to the ground surface from earthwork, including excavating and grading that could potentially increase the amount of sediments in runoff water. Increased sediment could negatively impact water quality in the drainages and in the San Francisco Bay.

Materials used during construction of paved pathways may have chemicals that are potentially harmful to water quality. Accidents or improper use of these materials could release contaminants to the environment. Additionally, oil and other petroleum products used to maintain and operate construction equipment could be accidentally released.

**Noise.** Construction of the proposed alternatives would require grading and earthwork activities that could generate noise levels that exceed established standards. Although these activities could result in infrequent periods of high noise, this noise would not be sustained and would occur only during the temporary construction period. High noise levels could result in temporary impacts to sensitive receptors in the project area, including residences and San Quentin State Prison employees and visitors. After project completion, neither of the alternatives would generate noise.

**Potential Constraints and Recommendations.** There are no environmental constraints related to construction impacts with implementation of standard avoidance and minimization measures described below.

#### *Air Quality*

Consistent with guidance from the BAAQMD, the following measures should be required of construction contracts and specifications for the project:

- Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers or dust palliatives;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard;
- Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging area at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts to water quality;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
- Apply non-toxic soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (i.e., dirt, sand);

- Limit traffic speeds on unpaved roads to 15 mph;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site; and suspend excavation and grading activity when winds exceed 25 mph.

#### *Water Quality/Hydrology*

A Stormwater Pollution Prevention Plan (SWPPP) should be prepared prior to beginning construction. All construction contractors should retain a copy of the SWPPP on the construction site. The SWPPP should include BMPs to reduce potential impacts to surface water quality through the construction and life of the project. The SWPPP should adhere to the following requirements:

- The SWPPP should include measures to avoid creating contaminants, minimize the release of contaminants, and water quality control measures to minimize contaminants from entering surface water or percolating into the ground.
- Fluvial erosion and water pollution related to construction should be controlled by a construction water pollution control program that shall be filed with the appropriate agency and kept current throughout any site development phase.
- The water pollution prevention program should include BMPs, as appropriate, given the specific circumstances of the site and project.
- A spill prevention and countermeasure plan should be incorporated into the SWPPP.

#### *Noise*

- All construction equipment should conform to the provisions of Caltrans Standard Specifications, Section 7-10/I, "Sound Control Requirements." This section requires the contractor to comply with all local ordinances (i.e., County of Marin) that apply to any work as part of the contract.
- Consistent with the County of Marin Noise Ordinance (Municipal Code § 6.70.030), all construction activities should be limited to between 7:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00am and 5:00pm on Saturdays; and loud noise-generating construction-related equipment (e.g., backhoes, generators, jackhammers) should be maintained, operated, or serviced from eight a.m. to five p.m. Monday through Friday only, with a permit issued by the Community Development Agency. In addition, all powered construction equipment should be equipped with intake and exhaust mufflers recommended by the manufacturers thereof; and pavement breakers and jackhammers would also be equipped with acoustical attenuating shields or shrouds recommended by the manufacturers thereof.

### **ADDITIONAL SURVEYS/STUDIES/CONSULTATIONS/PERMITS POTENTIALLY REQUIRED**

Additional surveys, studies, consultations and permits that may be required for the proposed alternatives are listed below. See the individual sections for more details.

#### **Biological Resources**

- Wetland delineation (*U.S. Army Corps of Engineers*)
- Clean Water Act (404) and/or Water Quality Certification (401) permits (if jurisdictional waters are impacted)
- Tree inventory
- Botanical survey
- Pre-construction nest survey(s)
- Natural Environment Study (*Caltrans*)

### **Cultural Resources**

- Presence/absence cultural resource testing to determine if CA-MRN-79/P-21-000536 is within the Alternative 1 alignment
- CRHR historic listing eligibility investigation for CA-MRN-79/P-21-000536 and/or the brick fence (*California Register of Historic Resources*)
- Native American consultation regarding CRHR investigation for CA-MRN-79/P-21-000536
- Historic Property Survey Report, Archaeological Survey Report, and Historical Resources Evaluation Report (*Caltrans*)

### **Hazardous Materials**

- Worker Health and Safety Plan
- Initial Site Assessment and/or soil testing for lead and petroleum hydrocarbons (*Caltrans*)

## **SUBSEQUENT CEQA AND NEPA REVIEW**

Based on our preliminary environmental analysis, LSA believes a Mitigated Negative Declaration (MND) supported by an Initial Study (IS) would be the appropriate level of environmental review for compliance under the California Environmental Quality Act (CEQA). We believe that the proposed alternatives, slope access point, and Main Street segment would qualify for a Categorical Exclusion for compliance with the National Environmental Policy Act (NEPA) under Section 6004 of 23 CFR 771.

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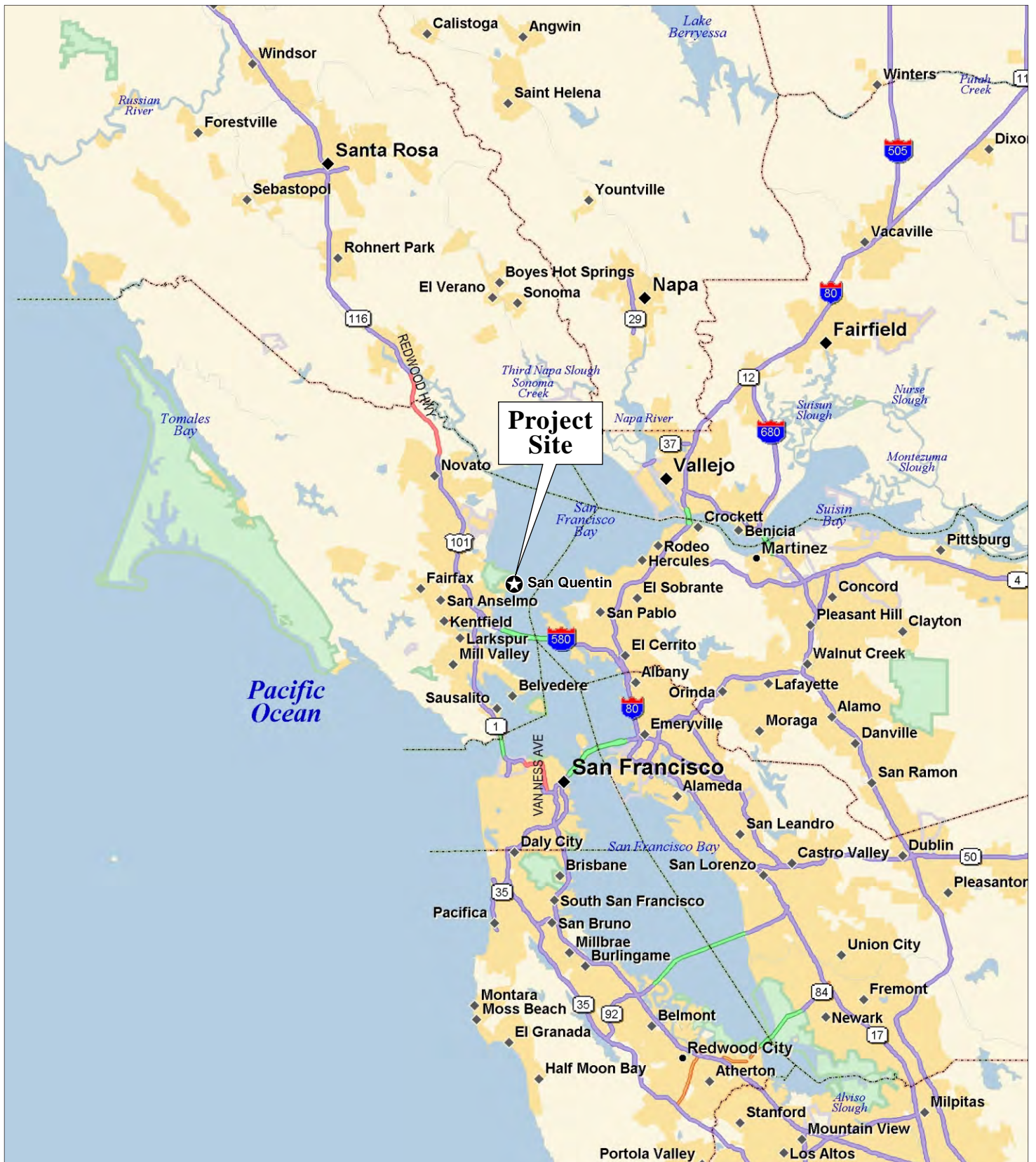
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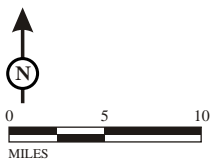
### **Construction Impacts**

Marin, County of, 2010. Marin County Municipal Code, § 6.70.030 Noise.



LSA

FIGURE 1



*San Quentin Area Bike and Pedestrian Improvements  
Marin County, California  
Regional Location*

SOURCE: ©2006 DeLORME. STREET ATLAS USA©2006.

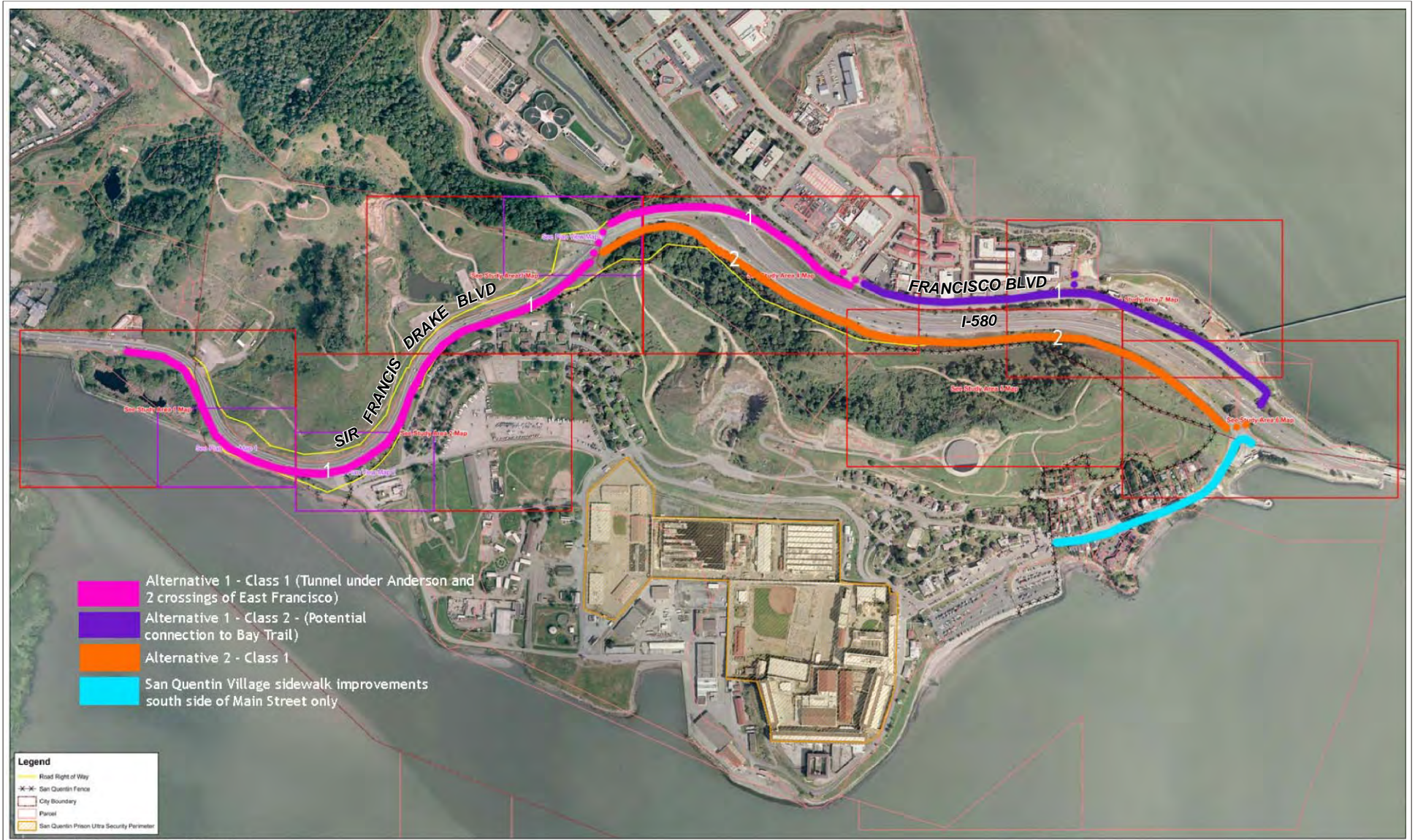
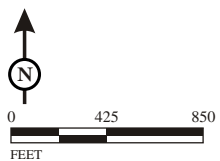


FIGURE 2

LSA



SOURCE: ALTA

*San Quentin Area Bike and Pedestrian Improvements  
Marin County, California  
Proposed Alternatives*