

Source: Imagery provided by Roumel Butiong, Robin Chiang & Company, 2026

Berkeley Water Transportation Pier Ferry Project

Draft Environmental Impact Report

State Clearinghouse #: 2025040995

prepared for

City of Berkeley
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February 2026

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Acronyms and Abbreviations

A-P	Alquist-Priolo
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC	Alameda County
AC Transit	Alameda-Contra Costa Transit District
ACCWP	Alameda Countywide Clean Water Program
ACM	Asbestos-containing materials
ADA	American Disabilities Act
ADT	Average Daily Traffic
ADL	Aerially Deposited Lead
AFY	Acre-Feet per Year
ASCE	American Society of Civil Engineers
BART	Bay Area Rapid Transit
BAAQMD	Bay Area Air Quality Management District
BCE	Before Common Era
BCDC	San Francisco Bay Conservation and Development Commission
BESS	Battery Energy Storage System
BERD	Built Environment Resources Directory
BMC	Berkeley Municipal Code
BMP	Best Management Practice
BFD	Berkeley Fire Department
BPD	Berkeley Police Department
CAA	Clean Air Act
CAAQAS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalARP	California Accidental Release Prevention Program
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations

CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CE	Common Era
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH4	Methane
CHP	California Highway Patrol
CNEL	Community Noise Equivalent Level
CNDDB	California Natural Diversity Database
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CO2	Carbon Dioxide
CPS	Coastal Pelagic Species
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CTC	California Transportation Commission
CTP	California Transportation Plan
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DDT	Dichloro-Diphenyl-Trichloroethane
DPM	Diesel Particulate Matter
DPR	California Department of Parks and Recreation
DSEM	Digital Surface Elevation Model
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EMA	Environmental Management Are
USEPA	United States Environmental Protection Agency
ESA	Endangered Species Act

ESU	Evolutionary Significant Unit
EV	Electric Vehicle
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Administration
FERC	Federal Energy Regulatory Commission
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWP	Global Warming Potential
HAPC	Habitat Area of Particular Concern
HMBP	Hazardous Materials Business Plan
HRA	High-Resource Area
HTL	High Tide Line
HVAC	Heating, Ventilation, and Air Conditioning
HWCL	Hazardous Waste Control Law
I-80	Interstate 80
I-580	Interstate 580
IHA	Incidental Harassment Authorization
IES	Illuminating Engineering Society
IOP	Implementation and Operations Plan
IPCC	Intergovernmental Panel on Climate Change
IS-MND	Initial Study-Mitigated Negative Declaration
KVP	Key Viewpoint
LED	Light-Emitting Diode
LEV	Low-Emission Vehicle
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
LNG	Liquified Natural Gas
LOS	Level of Service

LRA	Local Responsibility Area
LTMS	Long-Term Management Strategy
LTO	Lithium Titanate Oxide
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund
LZ0	Lighting Zone 0 (Very Low)
LZ1	Lighting Zone 1 (Low)
LZ2	Lighting Zone 2 (Moderate)
LZ4	Lighting Zone 4 (High)
MBTA	Migratory Bird Treaty Act
MCF	Million Cubic Feet
MCL	Maximum Contaminant Level
MCV	Manual of California Vegetation
MGD	Million Gallons per Day
MHW	Mean High Water
MLD	Most Likely Descendant
MLLW	Mean Lower Low Water
MMMP	Marine Mammal Monitoring Plan
MMPA	Marine Mammal Protection Act
MOI	Memorandum of Understanding
MPA	Marine Protected Area
MS4	Municipal Separate Storm Sewer System
MSA	Magnuson–Stevens Act
MT	Metric Ton
MTC	Metropolitan Transportation Commission
MW	Megawatt
MWELO	Model Water Efficient Landscape Ordinance
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NF3	Nitrogen Trifluoride
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association

NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO2	Nitrogen Dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NOx	Oxides of Nitrogen
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
O3	Ozone
OBC	Old Bay Clay
OHP	California Office of Historic Preservation
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PGA	Peak Ground Acceleration
PG&E	Pacific Gas and Electric Company
PLOD	Planning Level of Demand
PM	Particulate Matter
PM10	Particulate Matter (≤10 Microns)
PM2.5	Fine Particulate Matter (≤2.5 Microns)
PRC	Public Resources Code
PPV	Peak Particle Velocity
PV	Photovoltaic
PVC	Polyvinyl Chloride
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
RMS	Root Mean Square
ROG	Reactive Organic Gases

RSAP	Regional Shoreline Adaptation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SAF	State Alternative Fuels
SAV	Submerged Aquatic Vegetation
SB	Senate Bill
SCC	State Coastal Conservancy
SCAG	Southern California Association of Governments
SEL	Sound Exposure Level
SF	San Francisco
SF6	Sulfur Hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SGMA	Sustainable Groundwater Management Act
SGMP	Soil and Groundwater Management Plan
SHMP	State Hazard Mitigation Plan
SIP	State Implementation Plan
SLC	California State Lands Commission
SLF	Sacred Lands File
SO2	Sulfur Dioxide
SPRAWLDEF	Sustainability, Parks, Recycling, and Wildlife Legal Defense Fund
SPL	Sound Pressure Level
SR	State Route
SRA	State Responsibility Area
SSC	Species of Special
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TAF	Thousand Acre-Feet
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
TMD	Toxics Management Division

TMDL	Total Maximum Daily Load
TWW	Treated Wood Waste
U.S	United States
UC	University of California
UCF	Universal Charging Float
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USEIA	U.S. Energy Information Administration
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USC	United States Code
UWMP	Urban Water Management Plan
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
WP/WC/WR	Waterfront Parks / Waterfront Commercial / Waterfront Recreation
WETA	Water Emergency Transportation Authority
WMP	Watershed Management Plan
WSP	Waterfront Specific Plan
WTPF	Water Transportation Pier Ferry
WWF	Wet Weather Facility
WWTP	Wastewater Treatment Plant
ZEV	Zero Emission Vehicle

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Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed Berkeley Water Transportation Pier Ferry Project (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with implementation of the proposed project.

Project Synopsis

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Project Description

This EIR has been prepared to examine the potential environmental effects of the proposed project. The following is a summary of the full project description, which can be found in Chapter 2, *Project Description*.

The proposed project would replace the closed Berkeley Pier with a new, publicly accessible pier, breakwater, and ferry terminal that would support zero-emission ferry service from Berkeley while enhancing recreational access to the San Francisco Bay as well as circulation and multimodal access at the Berkeley Waterfront. The proposed project would include construction of a new 1,080-foot pier, a 400-foot breakwater, and ferry boarding infrastructure; development of a new public plaza at the pier entrance; improvements along University Avenue and Seawall Drive including a raised cycle track, new pedestrian amenities, and upgraded transit facilities; renovation of existing parking areas with permeable pavement and potential solar canopies, as well as installation of new utility connections, shoreline repair, and dredging to support ferry operations.

Project Objectives

The City's project objectives are as follows:

- Enhance public access and recreational opportunities at the Berkeley Waterfront that:
  - Develop or enhance public pier facilities at the City of Berkeley Waterfront.
  - Provide sufficient public access and recreational opportunities at the Berkeley Waterfront that meet regional needs, consistent with BCDC Bay Plan Policies maximizing access to the Bay.

  - Minimize environmental impacts by considering existing infrastructure and sea level rise projections.
  - Encourage the use of public transit, bicycle, and other forms of active transportation and sustainable travel to access the site.

- Provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco that:
  - Improves regional connectivity and resiliency with enhanced public transportation choices for East Bay residents, including for accessing jobs in San Francisco and other locations along the Bay for commerce and recreational purposes, and to address existing deficiencies in the Transbay transportation network.
  - Reduces the use of single-occupancy vehicles for Transbay trips, thereby reducing greenhouse gas and air quality emissions and decreasing congestion on the regional roadway system, consistent with regional and Statewide goals.
  - Provides travel times and costs that are competitive with other Transbay modes of travel.
  - Provides public transit facilities that are compatible with operations and recreational activities at the Berkeley Waterfront.
  - Provides navigable conditions for safe and efficient operation of ferry vessels.
  - Provides options for emergency response and transportation services in case of an emergency, such as natural or human-caused event that disables roads, other transit, bridges, and/or tunnels.

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines alternatives to the proposed project. Studied alternatives include the following four alternatives. Based on the alternatives analysis, Alternative 4 was determined to be the environmentally superior alternative.

- **Alternative 1: No Project Alternative**. Under Alternative 1, none of the improvements associated with the proposed project would occur and the current uses would remain. The deteriorated pier would remain closed, no new ferry service from Berkeley would be established, vehicle trips across the Bay would continue at their current rate, no new public plaza would be installed, none of the improvements along University Avenue or Seawall Drive would be installed, and the Seawall Drive East Parking lot would remain in its current condition. Alternative 1 would result in avoided construction impacts but would generate greater long-term impacts to aesthetics due to the lack of improvements, as well as to air quality, greenhouse gas emissions, transportation, and land use and planning due to the lack of circulation improvements and fewer reductions in criteria pollutants as a result of continued reliance on single-occupancy vehicle travel. In addition, Alternative 1 would not fulfill any of the Project Objectives.
- **Alternative 2: Shortened Breakwater Alternative**. Alternative 2 would retain all components of the proposed project, with a reduced-length breakwater. Construction of a shortened breakwater would result in a decrease to construction-related impacts and would maintain similar operational impacts to that of the proposed project while fulfilling most Project Objectives, though with somewhat reduced public access.

- **Alternative 3: Shortened Pier Alternative**. Alternative 3 would implement the proposed project as planned but would reduce the length of the pier such that it would not extend beyond the breakwater. A shortened pier would result in reductions to construction impacts while maintaining ferry service, and operational impacts would remain similar to the proposed project. However, public access and recreational opportunities would be limited, and therefore, Alternative 3 would meet the Project Objectives to a lesser extent than the proposed project.
- **Alternative 4: Reduced Landside Facilities Alternative.** Alternative 4 would involve the construction of the full pier and breakwater but would eliminate landside improvements such as the public plaza, cycle track, Bay Trail Extension, parking lot upgrades, and bus facilities. Minimal landside construction would still be required under Alternative 4 to complete and ensure emergency access to the proposed Pier including the Pier Abutment itself (including deep soil mixing to create a seismically stable landing for the abutment), and retaining wall and fill in the area to create vehicle and accessible connections between the existing sidewalk/Seawall Drive and the new pier. Several construction-related impacts would be reduced as a result, however, impacts to air quality, greenhouse gas emissions, and transportation would increase long-term due to fewer multimodal access opportunities and continued reliance on single-occupancy vehicle travel to access the new pier. In addition, Alternative 4 would provide substantially fewer public access opportunities and recreational benefits and therefore would not fulfill all Project Objectives.

Refer to Chapter 5, *Alternatives*, for the complete EIR alternatives analysis.

Areas of Known Controversy

During the EIR scoping process, members of the public identified concerns related to the potential for the proposed project to affect parking availability for recreationalists. Chapter 3, *Environmental Impact Analysis* (see *Secondary Impacts* subsection) identifies the approach for addressing parking impacts under CEQA for the proposed project. Public responses to the Notice of Preparation of a Draft EIR as well as public input received at the EIR scoping meeting held by the City are summarized in Chapter 1, *Introduction*.

Issues to be Resolved

There are no CEQA-related issues to be resolved at this time.

Issues Not Studied in Detail in the EIR

All environmental issue areas are analyzed in detail in this EIR.

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts, mitigation measures, and residual impacts (the impact after application of mitigation, if required) associated with implementation of the proposed project. Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the proposed project is approved pursuant to Section15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact Statement	Mitigation Measure(s)	Residual Impact
Aesthetics		
Impact AES-1. The proposed project would have a relatively low profile compared to scenic views and vistas in the vicinity, and compliance with policies of the Berkeley General Plan, Berkeley Marina Master Plan, and San Francisco Bay Plan would protect scenic vistas to ensure that development of the project would not adversely affect public views. This impact would be less than significant.	No mitigation would be required.	Less Than Significant
Impact AES-2. The proposed project would not be located within, or visible from, a designated State scenic highway. The project would not result in damage to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. No impact would occur.	No mitigation would be required.	No Impact
Impact AES-3. The proposed project would not conflict with applicable zoning and other regulations governing scenic quality, and would be subject to design review. The existing visual character of the area would be altered by the introduction of modernized infrastructure, but not degraded. The proposed project would be implemented in accordance with the requirements of the Berkeley General Plan, Berkeley Marina Master Plan, Berkeley Municipal Code, and the San Francisco Bay Plan. Therefore, impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact AES-4. Construction of the proposed project would not create a new source of substantial light or glare. Operation of the Proposed project would result in sources of light and glare from overhead light fixtures and safety and wayfinding lighting. However, operational levels of light and glare would be minor, similar to existing conditions, and all lighting associated with the project would designed with DarkSky approved fixtures. This impact would be less than significant with mitigation.	**AES-1: Reduce Night Lighting During Construction of Facilities.** Night lighting for construction activities, staging areas and other areas used for construction shall be the minimum necessary to ensure safety and security for nighttime activities and operations. As part of planning and project implementation, the City or its contractor(s) shall ensure nighttime lighting used for construction is shielded and oriented downwards toward the work area(s) to reduce off-site light spill during nighttime construction activities. Lighting at the project site shall consist of light-emitting diode lights in all areas where nighttime construction activities will occur and be either motion-activated or use timers to ensure safety and security and reduce the impact of nighttime light pollution. Furthermore, all lighting would be designed in compliance with Illuminating Engineering Society (IES) and DarkSky recommendations. The City of Berkeley shall verify that this mitigation measure is included in the project's final construction specifications prior to the initiation of construction activities.	Less Than Significant with Mitigation
Air Quality		
Impact AQ-1. The project would not conflict with or obstruct the implementation of the applicable air quality plan. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact AQ-2. The project would result in a cumulatively considerable net increase of criteria pollutants (specifically NOx) for which the project region is in non-attainment under an applicable federal or state air quality standard, prior to mitigation. With implementation of Mitigation, NOx would be reduced to below regulatory thresholds. Impacts would be less than significant with mitigation.	**AQ-1: Implement Construction Emissions Reduction Measures During Construction.** Prior to issuance of grading and construction permits, the City or its contractor(s) shall include the following measures on all construction plans, and these measures shall be implemented during construction: ▪ All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the USEPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 final standards. ▪ Alternative Fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment's certification or model year specifications shall be available upon request for all equipment on-site. ▪ Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used. ▪ The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. In addition, the City shall require the proposed project to comply with the following current Bay Area Air District's basic control measures for reducing construction emissions of PM_{10}[1] : ▪ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. ▪ All haul trucks transporting soil, sand, or other loose material off-site shall be covered. ▪ All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ▪ All vehicle speeds on unpaved roads shall be limited to 15 mph. ▪ All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.	Less Than Significant with Mitigation

[1] Bay Area Air District. 2017. California Environmental Quality Act Air Quality Guidelines, Table 8-2. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed October 2025).

Impact Statement	Mitigation Measure(s)	Residual Impact
	▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. ▪ All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. ▪ Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	
Impact AQ-3. The project would not increase carbon monoxide concentrations such that it would create carbon monoxide hotspots, and construction of the project would not result in emissions of TACs sufficient to exceed applicable health risk criteria with implementation of mitigation. Impacts would be less than significant with mitigation.	Mitigation Measure AQ-1 would apply.	Less Than Significant with Mitigation
Impact AQ-4. The project would not generate odors adversely affecting a substantial number of people during construction or operation. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Biological Resources		
Impact BIO-1. The project could result in direct or indirect impacts to special-status species or their associated habitats including impacts to migratory bird nest sites. Impacts would be less than significant with mitigation.	**BIO-1(a): Implement Worker Environmental Awareness Program Prior to and During Construction.** Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program training, conducted by a City-approved qualified biologist, to aid workers in recognizing special-status biological resources that may occur in the project area. This training will include information about northwestern pond turtle, special-status fish, marine mammals, and nesting birds potentially occurring in the project site. The specifics of this program shall include identification of special-status species and habitats, a description of the regulatory status and general ecological characteristics of special-status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the Worker Environmental Awareness Program and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special-status species. **BIO-1(b): Conduct Northwestern Pond Turtle Survey and Avoidance Prior to Construction.** No less than seven days prior to the start of any construction activities within 500 feet of Strawberry Creek (including staging and mobilization), a City-approved qualified biologist will conduct a preconstruction survey for northwestern pond turtle within suitable habitat on the project site as feasible. If any northwestern pond turtle are identified within the work area, they will be allowed to leave the work site on their own. CNDDB Field Survey Forms will be submitted to the CDFW for all special-status animal species observed. If any northwestern pond turtles are observed by construction personnel within or adjacent to (within 50 feet) the project site, all work within the vicinity of the observation will be halted and the qualified biologist will be notified immediately to evaluate the occurrence and relocate the animal as necessary. Only a qualified biologist will capture and relocate wildlife. Construction personnel are not permitted to handle said animals. If northwestern pond turtles become federally-listed at the time of construction, no individuals shall be handled without approval from USFWS. A report of all pre-construction survey efforts will be submitted to the City within 30 days of completion of the survey effort to document compliance. The report will include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report will also include for each captured special-status animal, the Universal Transverse Mercator (UTM) coordinates and habitat descriptions of the capture and release sites (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s). This measure may be modified or supplemented by permit conditions from applicable regulatory agencies. **BIO-1(c): Conduct Nesting Bird Survey and Avoidance Prior to Construction.** If ground disturbing project activities begin within the nesting season (February 1 through August 31), then no more than seven days prior to the initiation of project activities, a nesting bird pre-construction survey shall be conducted by a City-approved qualified biologist within the disturbance footprint, plus a 300-foot buffer. During construction within the nesting season, an additional focused survey shall be conducted prior to tree removal to identify active nests with the subject tree(s). If no active nests are observed, no further action would be required. Ground-disturbing project activities that are initiated outside of the nesting season may continue into the nesting season without requiring new nesting bird surveys. Pre-construction nesting bird surveys shall be conducted by a qualified biologist during the time of day when birds are most active and should be of sufficient duration to reliably conclude presence or absence of nesting birds on the project site and within the designated buffer. A report of the nesting bird surveys results shall be submitted to the City for review and approval prior to clearance for mobilizing equipment. If nests are found, their locations shall be flagged (if possible) and recorded with the use of a GPS unit. Avoidance buffers shall be established around active nests. Depending upon the species, suitable minimum buffers may be 50 feet for non-raptor species and 300 feet for raptor species, or as determined by the qualified biologist based on species sensitivity, construction activities, and other factors. If active nests are present, all project work shall be conducted outside the established avoidance buffer zone from the nest until it is no longer active. No staging of large equipment shall occur within the avoidance buffer until the qualified biologist confirms that breeding/nesting is complete and all the young have fledged. If buffer zones are determined to be infeasible, a City-approved qualified biological monitor shall be on site to monitor project activities within the avoidance buffer zones to ensure active nests and nesting birds are not impacted. Nesting bird surveys are not required for project activities that occur between September 1 and January 31. A report of all survey results and any proposed avoidance buffers shall be submitted to the City for review and approval. This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.	Less Than Significant with Mitigation

Impact Statement	Mitigation Measure(s)	Residual Impact
	BIO-1(d): Conduct Pile Driving Impact Avoidance to Fish and Marine Mammals Prior to and During Construction. In-water work, including pile driving and dredging, shall be limited to the window of June 1 through November 30. The soft-start, ramp-up, exclusion-zone and sound attenuation procedures described below apply to pile-driving and pile-extraction activities. A "soft-start" technique will be used to allow fish and marine mammals to vacate the area before the pile driver reaches full power. For vibratory hammers, the contractor will initiate the driving for 15 seconds at reduced energy, followed by a 1-minute waiting period when there has been downtime of 30 minutes or more. This procedure shall be repeated two additional times before continuous driving is started. This procedure would also apply to vibratory pile extraction. For impact driving, an initial set of three strikes would be made by the hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three-strike sets before initiating continuous driving. Pile-driving activity shall not begin at any location if any marine mammal is observed within the applicable safe-zone distance for its hearing group, as defined for the specific pile-driving method (e.g., pile diameter, vibratory or impact installation, and number of piles installed per day). Safe-zone distances shall follow the most current NMFS-approved guidance and the Marine Mammal Monitoring Plan prepared pursuant to Mitigation Measure BIO-1(E). In all cases, a minimum exclusion distance of no less than 10 meters shall be maintained around the pile-driving location. If a marine mammal moves within the safe zone after pile driving has begun, the contractor shall implement the appropriate delay or shutdown as described in Mitigation Measure BIO-1(E). A sound curtain, or bubble curtain, shall be employed during impact pile driving to break up sound waves, as feasible. The sound curtain would consist of a perforated hose laid in a circle to release air bubbles around the pile and diesel impact hammer. Jetting methods using pressurized water and/or wood cushion block methods shall also be employed as feasible to minimize impacts. If the intensity of the pile-driving activity needs to be increased or a marine mammal is within the safe zone buffer for the activity, pile-driving shall be "ramped-up", which is a slow increase in the intensity of pile-driving. At the start of pile-driving for each pile at all locations, the pile shall be struck once with the hammer and the second pile strike delayed long enough to permit adequate time for any marine mammals within the safe zone to leave the area prior to the start of sustained pile-driving activities. This measure, including the technique and the size of the safe zone, may be modified or supplemented by permit conditions from applicable regulatory agencies. **BIO-1(e): Prepare Marine Mammal Monitoring Plan Prior to Construction and Implement Recommendations During Construction** Prior to construction, the City shall prepare a Marine Mammal Monitoring Plan (MMMP) to avoid and minimize potential adverse impacts on marine mammals during pile driving and tug operations. The MMMP shall implement general guidelines set forth in the MMPA and incorporate the hydroacoustic modeling results developed for the project to define site-specific protection zones and avoid exposure of marine mammals to underwater sound levels exceeding the most up to date Level A (injury) thresholds identified by NOAA Fisheries. The MMMP shall include the following: ▪ **Protection and Monitoring Zones:** Using the hydroacoustic modeling results, the MMMP shall define shutdown and disturbance zones for each marine mammal hearing group. These zones will be tailored to the pile type, size, and driving method and will correspond to the Level A and Level B effect distances developed for the project. The plan will describe how these protection zones will be verified and monitored in the field, integrating them with the soft-start and observation procedures described in Mitigation Measure BIO-1(d). ▪ **Vessel Operation Protocols:** The MMMP shall include vessel-operation measures consistent with the MMPA. Construction vessels under power shall remain at least 300 feet from whales and 150 feet from dolphins, porpoises, seals, and sea lions. When marine mammals are encountered, vessel operators shall reduce speed to no-wake, shift to neutral, and allow the animals to pass safely before resuming operations. ▪ **On-Site Monitoring and Response**: A qualified biologist shall be present on site, either observing from the pier or aboard a vessel, during all pile-driving and tug operations. The biologist shall document all marine-mammal observations, note behavioral responses, and immediately alert project personnel if a whale enters the modeled harassment distance or comes within 300 feet, or if any other marine mammal enters the modeled harassment distance or comes within 150 feet, whichever is greater. Upon such an observation, the contractor shall implement the appropriate delay or shutdown procedures identified in the MMMP. ▪ **Adaptive Management and Coordination**: The MMMP shall outline communication and reporting protocols, including stop-work notification procedures and coordination with NMFS Protected Species Division. Results from daily monitoring will be used to assess the effectiveness of the protection zones and adjust them, if needed, in consultation with NMFS. This measure may be modified or supplemented by permit conditions from applicable regulatory agencies. **HYD-1: Include and Implement Additional Best Management Practices in the SWPPP Prior to and During Pier Demolition.** See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details. **AES-1: Reduce Night Lighting During Construction of Facilities.** See Section 3.1, *Aesthetics*, for mitigation measure details.	
Impact BIO-2. The project could have a substantial adverse effect on sensitive natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service. Impacts would be less than significant with mitigation incorporated.	**BIO-1(a): Implement Worker Environmental Awareness Program Prior to and During Construction.** Please refer to Impact BIO-1. **BIO-2: Implement Invasive Species Prevention During Construction.** The following practices shall be required for on-site construction activities: ▪ Any in-water fill materials shall be new or not salvaged from areas outside of San Francisco Bay. ▪ Any pumps or in-water construction equipment that may be needed during construction shall be cleaned and dried for at least 72 hours prior to being used on the project site. ▪ Tug boats shall not discharge untreated ballast water from outside the San Francisco Bay. This measure may be modified or supplemented by permit conditions from applicable regulatory agencies. **HYD-1: Include and Implement Additional Best Management Practices in the SWPPP Prior to and During Pier Demolition.** See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.	Less Than Significant with Mitigation

Impact Statement	Mitigation Measure(s)	Residual Impact
Impact BIO-3. The project could have a substantial adverse effect on state- or federally-protected wetlands or Waters. Impacts would be less than significant with mitigation incorporated.	**BIO-3: Provide Compensatory Mitigation for Loss of Jurisdictional Waters Prior to Operation** The City shall avoid a net loss of jurisdictional waters due to project implementation by demolishing additional portions of the existing pier to offset new fill and cover. Compensatory mitigation shall be required for impacts on tidal waters of the San Francisco Bay to achieve no net increase in Bay fill. Compensatory mitigation shall be provided at a minimum 1:1 ratio (by square foot of impact) through removal of existing pier piles and decking, as approved by the regulatory agencies. Mitigation may be achieved through removal of additional areas of the existing pier, including the concrete pier deck and pilings. Compensatory mitigation shall be implemented prior to or concurrently with construction of the new pier. The City shall develop a mitigation plan documenting the existing pier footprint, the proposed pier footprint, and the required additional demolition needed to meet the mitigation goal. This plan shall be developed by a qualified regulatory specialist prior to project construction and submitted to the appropriate agencies for review and approval during permitting. This measure may be modified or supplemented by permit conditions from applicable regulatory agencies. **HYD-1: Include and Implement Additional Best Management Practices in the SWPPP Prior to and During Pier Demolition.** See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.	Less Than Significant with Mitigation
Impact BIO-4. The project would not substantially impede wildlife movement areas or native wildlife nursery sites. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact BIO-5. The project would be subject to the City's policies and ordinances protecting biological resources, including protected trees, and therefore would not conflict with them. For other policies related to protecting biological resources, impacts would be less than significant with mitigation.	Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(c), BIO-1(d), BIO-1(e), BIO-2, BIO-3, AES-1, and HYD-1 would apply.	Less Than Significant with Mitigation
Impact BIO-6. The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be no impact.	No mitigation would be required.	No Impact
Cultural Resources		
Impact CR-1. The proposed project would not cause a substantial adverse change in the significance of a historical resource, and no impact would occur.	No mitigation would be required.	No Impact
Impact CR-2. The proposed land and water disturbances during construction could adversely affect unidentified archaeological resources. This impact would be less than significant with mitigation for potential unknown archaeological resources	**CR-1: Stop work and prepare and implement a data recovery plan if unanticipated archaeological resources are encountered during construction**. In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 100 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall be contacted immediately to evaluate the resource.[2] If the resource is determined by the qualified archaeologist to be precontact, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the resource is identified in the waterside improvements area, then a qualified marine archaeologist shall assist in the treatment and evaluation of the resource. Any waterside discoveries that are removed from their submerged environment shall be kept fully submerged in a container of freshwater for storage until the archaeologist can examine the find. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided by means of changes in the design of the project, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, pursuant to the requirements of the California Code of Regulations, CEQA Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The City shall review and approve the data recovery plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the California Historical Resources Information System, pursuant to California Code of Regulations, CEQA Guidelines Section 15126.4(b)(3)(C).	Less Than Significant with Mitigation
Impact CR-3. The proposed land and water disturbances during construction could adversely affect unidentified human remains. This impact would be less than significant with required adherence to existing regulations.	No mitigation would be required.	Less Than Significant

[2] National Park Service. 1983. Secretary of the Interior's Standards and Guidelines for Professional Qualifications in Archaeology and Historic Preservation. Available: https://www.nps.gov/articles/series.htm?id=62144687-B082-538A-A0174FFF26496394. (accessed February 2026)

Impact Statement	Mitigation Measure(s)	Residual Impact
Geology and Soils		
Impact GEO-1. The proposed project would not directly or indirectly cause potential substantial adverse effects including the risk of loss, injury, or death involving rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map as it is not located within an Alquist-Priolo Earthquake fault zone. No impact would occur.	No mitigation would be required.	No Impact
Impact GEO-2. The proposed project would not directly or indirectly cause potential substantial adverse effects including the risk of loss, injury, or death involving strong seismic ground shaking. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact GEO-3. The proposed project is located within a liquefaction zone. However, compliance with engineering recommendations would reduce potential impacts related to liquefaction to less than significant.	No mitigation would be required.	Less Than Significant
Impact GEO-4. The project would not result in substantial erosion or the loss of topsoil, and impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact GEO-5. The landside project components of the proposed project would potentially be located within expansive soils. Compliance with the California Building Code and Geotechnical Report recommendations would result in impacts that are less than significant.	No mitigation would be required.	Less Than Significant
Impact GEO-6. The proposed project would occur within an urbanized site that is currently served by existing sanitation infrastructure. The proposed project would not include septic systems or alternative wastewater disposal systems. No impact would occur.	No mitigation would be required.	No Impact
Impact GEO-7. Construction activities such as dredging have the potential to impact paleontological resources. Impacts would be less than significant with mitigation incorporated.	**GEO-1: Implement Paleontological Worker Environmental Awareness Program During Construction.** Prior to the start of construction, a Qualified Professional Paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology standards, or his or her designee shall conduct a paleontological Worker Environmental Awareness Program training for all construction personnel participating in subsurface dredging regarding unanticipated discoveries and the procedures for notifying paleontological staff should fossils be discovered by construction staff. A training acknowledgment form shall be signed by all workers who receive the training, and a copy of the signed training acknowledgement form shall be retained by the project contractor and provided to the City. **GEO-2: Stop Work Upon Unanticipated Discovery of Paleontological Resources and Implement Recommendations During Construction.** The City shall require the following mitigation measure for dredging activities. If a potential fossil is discovered during dredging, construction activity within 50 feet of the find shall cease until the discovery is examined by a Qualified Professional Paleontologist as defined by the Society of Vertebrate Paleontology.[3] If the find is determined to be scientifically significant, the Qualified Professional Paleontologist shall direct all mitigation measures related to paleontological resources consistent with the SVP (2010) standards, which shall include fossil salvage, laboratory preparation, curation in a paleontological repository, and a paleontological monitoring report. Additionally, the Qualified Professional Paleontologist and City shall decide if full- or part-time monitoring shall be instated for further project-related dredging. A Qualified Professional Paleontologist, is defined by the SVP (2010) as an individual with: ▪ A graduate degree in paleontology or geology, and/or a publication record in peer reviewed journals; and demonstrated competence in field techniques, preparation, identification, curation, and reporting in the state or geologic province in which the project occurs. An advanced degree is less important than demonstrated competence and regional experience. ▪ At least two full years professional experience as assistant to a Project Paleontologist with administration and project management experience; supported by a list of projects and referral contacts. ▪ Proficiency in recognizing fossils in the field and determining their significance. ▪ Expertise in local geology, stratigraphy, and biostratigraphy. ▪ Experience collecting vertebrate fossils in the field.	Less Than Significant with Mitigation

[3] Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.

Impact Statement	Mitigation Measure(s)	Residual Impact
Greenhous Gas Emissions and Energy		
Impact GHG-1. The proposed project would generate temporary construction-related increases in GHG emissions but would result in a long-term overall decrease in GHG emissions. The proposed project would not conflict with the Bay Area Air District 2022 CEQA GHG Guidelines nor State, regional, or local GHG reduction plans. This impact would be less than significant.	No mitigation would be required.	Less Than Significant
Impact GHG-2. The proposed project would not result in wasteful or unnecessary energy consumption during project construction and operation, and impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact GHG-3. The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Hazards and Hazardous Materials		
Impact HAZ-1. Construction and Operation of the project could result in an increase in the overall routine transport, use, and disposal of hazardous materials in Berkeley. Nonetheless, required compliance with applicable regulations related to hazardous materials would minimize the risk of releases and exposure to these materials. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact HAZ-2. The project site is not located within 0.25 mile of an existing or proposed school. The proposed project would, therefore, have no impact related to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	No mitigation would be required.	No Impact
Impact HAZ-3. The proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As a result, the proposed project would not create a significant hazard to the public or the environment from being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impact would occur.	No mitigation would be required.	No Impact
Impact HAZ-4. The proposed project would not be located within an airport land use plan or within two miles of a public airport or public use airport, and would not result in a safety hazard or excessive noise related to airport operation for people residing or working in the project area. No impact would occur.	No mitigation would be required.	No Impact
Impact HAZ-5. The proposed project would not result in physical changes that could interfere with or impair emergency response or evacuation. Therefore, the project would not result in interference with these types of adopted plans. this impact would be less than significant.	No mitigation would be required.	Less Than Significant
Impact HAZ-6. The project is not within or near a wildland area. The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant

Impact Statement	Mitigation Measure(s)	Residual Impact
Hydrology and Water Quality		
Impact HYD-1. Due to the focused and limited construction elements and short duration of project construction, the proposed project would not substantially degrade surface or groundwater quality, contribute meaningfully to existing water quality impairments, or result in exceedances of applicable water quality objectives or waste discharge requirements. Water quality impacts related to pier demolition would be less than significant with mitigation.	**HYD-1: Include and Implement Additional Best Management Practices in the SWPPP Prior to and During Pier Demolition.** In compliance with the requirements of the Construction Stormwater General Permit, prior to construction the construction contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement the SWPPP during construction. The SWPPP shall be submitted to the Berkeley Public Works Department and the State Water Resources Control Board (via the Stormwater Multiple Application and Report Tracking System [SMARTS]) for review and approval at least 60 days prior to start of construction. In addition to standard Erosion Control, Sediment Control, and Good Housekeeping Best Management Practices, the following Best Management Practices shall be included in the SWPPP and implemented during pier demolition: ▪ Site washout areas shall be located at least 100 feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies, unless otherwise approved by the RWQCB. ▪ All re-fueling, cleaning, and maintenance of equipment shall occur at least 100 feet from storm drain, open ditch or surface water and/or within secondary containment, unless otherwise approved by the RWQCB. ▪ Particular care shall be exercised to prevent foreign materials (e.g., construction scraps, wood preservatives, other chemicals and debris, etc.) from entering the San Francisco Bay during pier demolition. ▫ If wood preservatives must be applied to cut-wood surfaces, the materials, whenever feasible, shall be treated at an onshore location to preclude the possibility of spills into State waters. ▫ A containment boom shall be placed around all active portions of a construction site where wood scraps or other floatable debris could enter the water. ▫ The containment boom and net shall be cleared daily or as often as necessary to prevent accumulation of debris. ▫ Tarps and basins shall be used above deck to contain debris and materials. ▫ Dipnets shall be on-site and can be used to retrieve debris if it accidentally falls into the water. ▫ A 50-foot-long spill containment boom as well as absorbent pads shall be kept on-site and shall be deployed in the event that there is a release of fluids into the water. ▪ Contractors shall make mandatory that work crews are carefully briefed on the importance of observing the appropriate precautions and reporting any accidental spills. This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.	Less Than Significant with Mitigation
Impact HYD-2. Project construction would require localized dewatering but would not substantially decrease groundwater supplies or interfere with groundwater recharge. The project would decrease impervious area and enhance infiltration and localized recharge but would not conflict with the sustainable management of the groundwater basin. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact HYD-3. Project construction would temporarily disturb soils and increase the potential for erosion, siltation, and contaminant release, and suspend sediments in San Francisco Bay. The project would place a new pier and breakwater within a flood hazard area. However, with compliance with existing regulations and implementation of required BMPs, impacts related to erosion, siltation, runoff, and flooding would be less than significant.	No mitigation would be required.	Less Than Significant
Impact HYD-4. Project construction in tidal and coastal flood areas could temporarily increase the risk of inundation and pollutant release. operation would also occur within the 100-year floodplain and tsunami inundation zone. However, with climate-adaptive design elevations, watertight storage, battery safety systems, and implementation of required BMPs, impacts related to pollutant release or water quality degradation due to flooding, tsunami, or seiche would be less than significant.	No mitigation would be required.	Less Than Significant
Impact HYD-5. Project construction could result in temporary, localized resuspension of sediments and short-term increases in turbidity. These effects would be limited in duration and extent and would not result in long-term degradation of water quality. The project would remain consistent with SFBRWQCB Basin Plan objectives and beneficial uses, as well as the goals of the East Bay Subbasin Groundwater Sustainability Plan. Therefore, impacts related to sediment resuspension and turbidity would be less than significant.	No mitigation would be required.	Less Than Significant

Impact Statement	Mitigation Measure(s)	Residual Impact
Land Use and Planning		
Impact LU-1. The proposed project would not physically divide an established community and no impact would occur.	No mitigation would be required.	No Impact
Impact LU-2. Operation and construction of the proposed project would be consistent with the goals and policies of the Berkeley General Plan, Bay Area Clean Air Plan, ABAG/MTC Plan Bay Area 2050, Berkeley Marina Master Plan, Berkeley Local Hazard Mitigation Plan, Berkeley Climate Action Plan, and Berkeley Measure L, and impacts would be less than significant. Operation and construction of the proposed project would be consistent with the goals and policies of the BCDC San Francisco Bay Plan with incorporation of mitigation. Construction of the proposed project would not be consistent with polices related to noise in the Berkeley Municipal Code, and impacts would be significant and unavoidable.	Mitigation Measures AES-1, AQ-1, BIO-1(a), BIO-1(b), BIO-1(c), BIO-1(d), BIO-1(e), BIO-2, BIO-3, HYD-1, and NOI-1would apply.	Significant and Unavoidable
Noise		
Impact NOI-1. Operational Impacts: Mobile and stationary operational noise impacts would be less than significant. Construction Impacts: Most project construction noise impacts would be less than significant with mitigation; however, construction noise levels at some nearby sensitive receptors, including for nighttime construction work, would still exceed City thresholds and, thus, overall construction noise impacts would be significant and unavoidable.	**NOI-1: Prepare and Implement Construction Noise Management Plan Prior to and During Construction.** Prior to the start of construction activities, a Construction Noise Management Plan shall be submitted to and approved by the City's Public Works Department. The Construction Noise Management Plan shall include the following: ▪ Prior to the initiation of construction activities at the project site, the contractor shall install temporary noise barriers/blankets between the construction boundary and nearby sensitive receptors. The temporary barriers/blankets shall have a minimum height of 12 feet to block the line of sight between operating construction equipment and adjacent sensitive receptors. Barriers shall be constructed with a solid material that has a density of at least one pound per square foot with no gaps from the ground to the top of the barrier and be lined on the construction side with acoustical blanket, curtain, or equivalent absorptive material rated STC 32 or higher. The temporary barriers/blankets shall be installed as follows: ▫ For landside construction activities occurring near the pier entrance/public plaza, temporary noise barriers/blankets shall be installed around the construction boundaries between the construction work areas and the Skates on the Bay Restaurant and Horseshoe Park located to the north and Shorebird Park located to the east. ▫ For construction activities occurring at/near the Seawall Drive parking lot, temporary noise barriers/blankets shall be installed between the construction boundary and Shorebird Park to the north. ▫ For construction activities occurring along University Avenue, temporary noise barriers/blankets shall be installed between the construction work areas and the live-aboard boats in the Marina to the north and Shorebird Park and Adventure Playground to the south. ▪ With approval of the project structural engineer, landside pile holes shall be pre-drilled to minimize the number of impacts necessary to seat the pile, where feasible. ▪ Pile driving shall be scheduled to have the least impact on nearby live-aboards or houseboats. ▪ Applicable pile driving noise control devices shall be integrated to the extent feasible to conduct both landside and in-water pile driving. These may include, but are not limited to, shrouding the pile hammer point of impact, by placing resilient padding directly on top of the pile cap, and/or by reducing exhaust noise with a sound-absorbing muffler. ▪ Alternatives to impact hammers, such as oscillating or rotating pile installation systems, shall be used where possible for landside pile driving. ▪ At least 10 days prior to the start of construction activities, a sign shall be posted at the construction site, or other conspicuous location, that includes a telephone number, website and email for project information, and a procedure in which a construction manager shall respond to and investigate noise complaints and take corrective action, if necessary, in a timely manner. ▪ At least 21 days prior to the start of construction activities, businesses and residents (including occupied live-aboard boats) within 500 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the hours when construction would occur, and the overall duration of the construction period. The notification shall include the telephone numbers and email addresses of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise complaint. ▪ If a construction noise complaint is registered and if City code enforcement is not available to make noise measurements, the City shall retain a City-approved noise consultant to conduct noise measurements at the properties that registered the complaint. The noise measurements shall be conducted for a minimum of one hour. The consultant shall prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible. ▪ Prior to the start of and for the duration of construction, the contractor shall properly maintain and tune all construction equipment in accordance with the manufacturer's recommendations to minimize noise emissions. ▪ Prior to use of any construction equipment, the contractor shall fit all equipment with properly operating mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer. ▪ Material hauling and deliveries shall be coordinated by the construction contractor to reduce the potential of trucks waiting to unload for protracted periods of time. ▪ To the extent feasible, hydraulic equipment shall be used instead of pneumatic impact tools, and electric-powered equipment shall be used instead of diesel-powered equipment. ▪ Stationary noise sources (e.g., generators) shall be located as far from sensitive receptors as practicable, and they shall be muffled and enclosed within temporary sheds, or insulation barriers with a minimum STC rating of 32. ▪ The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.	Significant and Unavoidable

Impact Statement	Mitigation Measure(s)	Residual Impact
	▪ Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than five minutes. The construction manager shall be responsible for enforcing this.	
Impact NOI-2. Construction activities associated with the proposed project would generate temporary levels of groundborne vibration in the project area; however, vibration levels would not exceed applicable thresholds at nearby sensitive receptors and construction vibration impacts would be less than significant. The project would not generate substantial levels of vibration during operation; therefore, operational vibration impacts would be less than significant.	No mitigation would be required	Less Than Significant
Impact NOI-3. The project site is not located within the noise contours of an airport land use plan or within two miles of a public or public use airport. Therefore, people residing and working in the project area would not be exposed to excessive airport-related noise, and no airport activity noise impact would occur.	No mitigation would be required	No Impact
Recreation		
Impact REC-1. The Project will create a net increase in recreational facilities that do not currently exist in the form of a restored pier, new Bay Trail, and a new dedicated cycle track. The project would not induce population growth but would increase the number of visitors to the Berkeley Waterfront area that may increase the use of on-site and nearby existing recreational facilities. However, given that the project would provide additional recreational opportunities and facilities, impacts related to a substantial physical deterioration of existing recreational facilities and substantial adverse physical impacts on the environment from the need of a new park would be less than significant.	No mitigation would be required.	Less Than Significant
Impact REC-2. The project includes the construction of recreational facilities, the potential environmental impacts of which are identified and evaluated throughout this Environmental Impact Report. This impact would be significant and unavoidable.	Mitigation Measures AES-1, AQ-1, BIO-1(a), BIO-1(b), BIO-1(c), BIO-1(d), BIO-1(e), BIO-2, BIO-3, CR-1, HYD-1, NOI-1, TCR-1, TCR-2, TCR-3, TCR-4, and TCR-5 would apply.	Significant and Unavoidable
Transportation		
Impact TRA-1. The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. This impact would be less than significant.	No mitigation would be required.	Less Than Significant
Impact TRA-2. The proposed project would not conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b), and the project would contribute to a net reduction in roadway vehicle-based VMT. No impact would occur.	No mitigation would be required.	No Impact
Impact TRA-3. The proposed project would not substantially increase roadway hazards because of a geometric design feature or incompatible use. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant
Impact TRA-4. Implementation of the proposed project would not have the potential to result in inadequate emergency access. No Impact would occur.	No mitigation would be required.	No Impact

Impact Statement	Mitigation Measure(s)	Residual Impact
Tribal Cultural Resources		
Impact TCR-1. The proposed disturbances on the ground and seabed could adversely affect Tribal Cultural Resources. With adherence to mitigation measures agreed upon through AB 52 consultation, impacts to tribal cultural resources would be less than significant with mitigation.	**TCR-1: Conduct Cultural Resources Sensitivity Training Prior to Construction.** Prior to the start of any ground disturbing activities, including excavation on land and dredging in water, the City of Berkeley (City) or its contractor(s) shall provide all construction personnel conducting ground disturbing activities, with cultural resources sensitivity training. The training will be conducted in person, or via a video meeting, to be viewed by all construction personnel involved in ground disturbing activities prior to the start of construction. The training will be developed and conducted in coordination with locally affiliated California Native American Tribe(s) that have participated in consultation with the City for the project (referred to hereafter as "Consulting Tribes"). Cultural resources sensitivity training will include relevant information regarding sensitive tribal cultural resources, applicable regulations including consequences of violation, and protocols for unanticipated discoveries and avoidance. The training will emphasize the requirement of confidentiality and culturally appropriate treatment of any finds of significance to Native Americans. **TCR-2: Provide Signage Acknowledging Native American History Prior to Operation.** Prior to operation, the City shall provide signage at the project site that acknowledges Native American history and importance of the area. Language and design for the signage shall be developed in consultation with Consulting Tribes, including the Muwekma Ohlone Tribe. The location of the signage shall be thoughtfully integrated into the project design and shall be respectful of Native American culture and values. Photographs of human remains shall not be depicted on the signage. The City or its contractor(s) shall incorporate the location and content of the signage prior to Final Design. Consulting Tribes shall be given the opportunity to comment on the signage prior to the Final Design being approved by the City. **TCR-3: Conduct Native American Monitoring During Construction.** Prior to the start of any ground disturbing activities, including excavation and grading on land not previously covered by fill and any dredging in water, the City or its contractor(s) shall retain a Native American monitor(s) from a Consulting Tribe(s) for purposes of construction monitoring. If multiple Consulting Tribes request to monitor, the City will establish a rotating schedule to include all tribes requesting monitoring. The City shall provide monitors with at least 48 hours' notice prior to the start of any ground disturbing activity that requires monitoring. Native American monitors shall observe project-related ground disturbing activities located in previously undisturbed areas (i.e., areas not consisting of fill) and provide daily monitoring logs to the City detailing construction observed and results at minimum (confidential information can be redacted at the monitor's discretion). Monitors shall have the authority to temporarily halt work in the event of discovery or a potential Tribal Cultural Resource. If suspected Tribal Cultural Resources are encountered at any point during ground disturbing activities, work within a 100-foot radius shall halt and the find shall be evaluated for significance as required by Mitigation Measure TCR-4. The 100-foot radius may be reduced or expanded as appropriate by the monitor if conditions, such as expanded boundaries or increased sensitivity, warrant the reduction or expansion. Native American monitoring may be reduced to spot-checking or eliminated at the discretion of the monitor, in coordination with the City, as warranted by conditions such as encountering fill soils, bedrock, or negative findings during the first 60 percent of grading. If monitoring is reduced to spot-checking, spot-checking shall occur, at minimum, when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). Ground disturbing activities shall not be contingent on the presence or availability of a Native American monitor, and ground disturbing may proceed regardless of whether or not a monitor is present on site. **TCR-4: Evaluate Discovered Tribal Cultural Resources and Implement Resulting Recommendations During Construction.** If suspected Tribal Cultural Resources are encountered at any point during ground disturbing activities, work within a 100-foot radius shall halt and Consulting Tribes shall evaluate the suspected resource for significance as a Tribal Cultural Resource. If the find is archaeological in nature, then the City or its contractor(s) shall also retain a qualified archaeologist to respond and evaluate significance as required by Mitigation Measure CUL-1. The City shall review the significance evaluation of the Tribal Cultural Resource and determine whether the find meets the criteria in California PCR Section 21074. If a discovered Tribal Cultural Resource is determined by the City to meet the criteria in California PRC Section 21074, avoidance and preservation in place shall be the preferred method of mitigating impacts and the City shall first consider the measures in California PRC Section 21084.3(b) in consultation with Consulting Tribes. If significant impacts to the resource cannot be avoided via project redesign, then the City shall work with Consulting Tribes to develop other appropriate measures to mitigate impacts. This could include, but would not be limited to, data recovery, installation of a permanent plaque or mural to inform the public, interpretive and/or educational elements, and/or landscaping to include native plants. Work in the area may resume following the determination by the City and completion of any applicable measures mitigating impacts to the Tribal Cultural Resource, if any. **TCR-5: Provide Respectful Treatment of Native American Human Remains Upon Unanticipated Discovery and Implement Recommendations During Construction.** In addition to adherence to the California Health and Safety Code Sections 7050.5, should human remains be identified during construction, no photographs shall be taken without express permission from the on-site Native American Monitor, and no invasive scientific testing shall be completed without consultation with the NAHC appointed Most Likely Descendent. Any bone that cannot be identified as faunal shall be treated as human remains until positively identified as being non-human by the coroner and/or a qualified archaeologist, as appropriate. The Most Likely Descendant shall provide recommendations for reburial, and human remains and associated funerary items shall be reburied by Tribal representatives in a location agreed upon between the Tribe and the City. Any reburial location shall be accessible to Tribal members in perpetuity, not be subject to further disturbance, and kept confidential.	Less Than Significant with Mitigation

Impact Statement	Mitigation Measure(s)	Residual Impact
Utilities and Service Systems		
Impact UTL-1. The proposed project would require utility service and connections for water supply, wastewater conveyance, and stormwater conveyance, as well as telecommunications and electricity. Existing utility systems for water, wastewater, stormwater, electric power, and telecommunications facilities in Berkeley have sufficient capacity to serve the Project. Adequate wastewater capacity exists to serve the Project's projected demand in addition to the provider's existing commitments. Utility connections from the proposed project would result in less than significant impacts on air quality, biological resources, cultural resources, noise, and tribal cultural resources, after mitigation. Impacts would be less than significant with mitigation.	Mitigation Measures AQ-1, BIO-1(a), BIO-1(b), BIO-1(c), BIO-2, CR-1, NOI-1, TCR-1, TCR-2, TCR-3, TCR-4, and TCR-5 would apply.	Less Than Significant with Mitigation
Impact UTL-2. The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. This impact would be less than significant.	No mitigation would be required.	Less Than Significant
Impact UTL-3. The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure. The project would not impair the attainment of solid waste reduction goals and would comply with federal, State, and local statutes and regulations related to solid waste. Impacts would be less than significant.	No mitigation would be required.	Less Than Significant

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1 Introduction

This document is an Environmental Impact Report (EIR) that assesses the potential environmental impacts associated with construction and operation of the proposed Berkeley Water Transportation Pier Ferry (proposed project or project). This chapter discusses 1) EIR purpose, type, and authority, 2) the proposed project and EIR background; 3) the scope and content adequacy of the EIR; 4) the lead, responsible, and trustee agencies; and 5) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in detail in Chapter 2, *Project Description*.

1.1 EIR Purpose, Type, and Authority

1.1.1 Regulatory Purpose

The proposed project requires the discretionary approval of the Berkeley City Council; therefore, the proposed project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the CEQA Guidelines (California Code of Regulations, Title 14), the purpose of an EIR is to serve as an informational document that:

> "...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

Therefore, the regulatory purpose of this EIR is to disclose the environmental impacts, including any significant effects, of the proposed project; identify ways to avoid or reduce environmental impacts through planning design or environmental mitigation measures; consider potentially feasible alternatives to the proposed project; and integrate public participation and input into the overall planning process.

1.1.2 EIR Type

This EIR has been prepared as a project EIR pursuant to CEQA Guidelines Section 15161. As stated in the CEQA Guidelines:

> "This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation."

The operation of ferry vessels serving Berkeley has been analyzed by the Water Emergency Transportation Authority (WETA) – also known as San Francisco Bay Ferry – in the Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR in 2003.[1] This 2003 Program EIR addressed the potential environmental impacts resulting from expansion of water transit service and routes defined in the WETA Implementation and Operations Plan (IOP). The IOP presented a

[1] WETA. 2003. Final Program Environmental Impact Report. Expansion of Ferry Transit Service in the San Francisco Bay Area. June. Prepared by URS Corporation.

focused set of routes, terminals, and service improvements for expanded ferry service in the San Francisco Bay area and included new routes from a potential Berkeley ferry landing site.[2]

1.1.3 Incorporation by Reference

This EIR hereby incorporates by reference the Final Program EIR for the Expansion of Ferry Transit Service in the San Francisco Bay Area (WETA Program EIR). The analyses of all potential environmental impact topics, including all background information regarding the environmental setting of these documents, are incorporated by reference.

The WETA Program EIR is available for review at:

City of Berkeley Parks, Recreation & Waterfront Department
2180 Milvia Street, 3rd Floor
Berkeley, CA 94704

In addition, electronic copies are available online at: https://berkeleyca.gov/your-government/our-work/capital-projects/berkeley-pier-ferry-access-project.

The WETA Program EIR, certified in June 2003 by the WETA Board of Directors, evaluated WETA's proposed expansion of ferry service in the San Francisco Bay Area. The primary purpose of this program is to increase regional mobility and transportation options by providing new and expanded water transit services and ground transportation terminal access in the San Francisco Bay Area. The WETA Program EIR analyzed the expansion of existing service and new routes as described in the IOP, as well as four program alternatives. The IOP provides expanded ferry service and associated landside transit to be implemented in phases, and includes expanded ferry service between a new ferry terminal in Berkeley and the San Francisco Ferry Terminal. While the IOP does not represent a precisely fixed set of routes and terminal sites, it is based on the anticipated routes and terminals that would result from its implementation.

The WETA Program EIR analyzed the following environmental resource topics: dredging; navigation; wake analysis; water resources; biology; air quality; land use and community issues; aesthetics; cultural resources; geology; noise; transportation; energy; and growth inducing impacts. This EIR summarizes the relevant information from the WETA Program EIR for specific environmental resources in relevant sections of this EIR.

Mitigation measures were identified in the WETA Program EIR and were adopted and incorporated into the ferry service expansion project by WETA, and thus will be part of the approved ferry operations and expansion of ferry service to Berkeley.

This EIR includes a summary of the relevant parts of the WETA Program EIR. Please refer to Section 3.3, *Biological Resources* and Section 3.7, *Hazards and Hazardous Materials* for a summary of the analysis in the WETA Program EIR, as it pertains to the proposed project.

[2] WETA. 2003. A Strategy to Improve Public Transit with an Environmentally Friendly Ferry System. Final Implementation and Operations Plan. July. Available: https://www.scribd.com/document/38341603/WETA-Implementation-and-Operations-Plan (accessed October 2025).

1.1.4 Legal Authority

This EIR is intended to serve as an informational document for the public and City of Berkeley decision makers. The approval process will include a public hearing before the City Council to consider certification of a Final EIR and adoption of the proposed project. Adoption of the proposed project may not be considered until this EIR has first been considered by the decision makers and certified by the approving body, in this case the Berkeley City Council.

1.2 Proposed Project and EIR Background

1.2.1 Project Background

The Berkeley Municipal Pier was closed in July 2015 due to visually observed structural problems on the underside of the concrete decking and pilings.[3] In 2017, the City retained a structural engineering firm (GHD) to assess the problem and develop a range of potential solutions and costs. In 2018, staff from WETA – also known as San Francisco Bay Ferry – initiated discussions with City staff regarding the possibility of new ferry service at the Berkeley Waterfront.[4,5] During those initial discussions, WETA and City staff realized that it could be cost-effective to investigate a single pier that would provide two uses – ferry service and public recreation. In 2019, WETA and the City Council authorized a Memorandum of Understanding Agreement (MOU) to jointly fund a planning study to evaluate the feasibility of a dual-purpose pier. The Berkeley City Council approved the MOU on March 12, 2019.[6]

In March 2022, WETA prepared Version 1 of the Business Plan for Berkeley Ferry Service.[7] The Business Plan evaluates new weekday, weekend, and special event ferry service between Berkeley and San Francisco and weekend and special event ferry service between Berkeley and Larkspur. The Plan describes how the routes were selected, the ridership projections, illustrative service plans, equity considerations, the economic development opportunities, the operational and financial feasibility of the service, and the estimated capital costs. The Business Plan identifies the following opportunities from the project:

- Access to jobs in San Francisco for Berkeley residents.
- Access to jobs and classes in Berkeley for San Francisco residents/students.
- Improvements to existing recreational connections and infrastructure.
- Major events on the waterfront.
- Expansion of hotel/conference opportunities.
- Attracting new businesses/industry.
- Supporting new commercial and non-commercial recreation opportunities.

[3] Berkeley, City of. 2021. Berkeley Municipal Pier Structural Assessment Report. June. Prepared by GHD.
[4] SF Bay Ferry published a 2009 Draft EIR that studied establishing ferry service in the Berkeley/Albany waterfront corridor: *Berkeley/Albany Ferry Service Draft EIR*, SCH#2007022034, San Francisco Bay Area Water Transit Authority, October 28, 2008.
[5] WETA. 2008. Berkeley/Albany Ferry Terminal Study Draft EIS/EIR. October. Prepared by URS.
[6] Berkeley, City of. 2019. Memorandum of Understanding: Planning Phase for the viability of a potential WETA Ferry Service and Public Recreation Pier at the Berkeley Marina. Available: https://berkeleyca.gov/sites/default/files/documents/2019-03-12%20Item%2009%20Memorandum%20of%20Understanding.pdf (accessed July 2024)
[7] WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. Prepared by Economic Planning Systems, Inc. March 17. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf (accessed June 2025)

Section 6, Equity Considerations of the Business Plan provides an overview of the demographics of the area near the project site, and identified West Berkeley as having limited options for public transit compared to other areas of the City. This Section also includes an overview of the jobs available in San Francisco and identifies that ferry service between Berkeley and San Francisco would increase access to higher-paying jobs, allowing workers to live in East Bay while working in San Francisco. It also identifies that the ferry service also has potential to facilitate travel to the East Bay and the jobs available there, particularly in areas of Berkeley with high job densities such as the Bayer campus and UC Berkeley.

1.2.2 Public Outreach

Between January and October 2021, the City of Berkeley and WETA carried out a series of virtual outreach efforts to support the Berkeley Pier and Ferry Feasibility Study. The City held several community workshops and performed outreach to get public input, which culminated in the development of a Feasibility Study that identified the City's preferred concept. These included:

- Three Focus Group Meetings with frequent Marina users to discuss recreational uses, pier design, and access needs.
- Three Community Workshops introducing the study, presenting design alternatives, and reviewing the preferred alternative.
- Two City Council Working Sessions to discuss study parameters, fiscal considerations, and review conceptual plans.
- One Questionnaire posted online, with 377 total responses (mostly from nearby residents), focusing on ferry use and pier preferences.

In June 2023, GHD finalized the Feasibility Study for the Berkeley Water Transportation Pier Ferry planning effort.[8] Among other things, one of the outcomes from the public input process was the selection of the design of the breakwater, which is known as the "Sword" design and shown in Chapter 2, *Project Description*.

The City performed additional outreach in 2025, which was conducted in part to better reach and involve historically underrepresented community members. Between January 15, 2025 and May 14, 2025, the City conducted public outreach via the following 27 events / community organization meetings:

- Berkeley Chamber of Commerce
- Lunch & Learn, Healthy Black Families
- Bike Focus Group, Bike East Bay & Walk/Bike Berkeley
- Monthly Meeting, Berkeley Business District Network
- Monthly Meeting, Gilman Business Coordinating Committee
- Monthly Meeting, Berkeley Neighborhood Council
- Regular Meeting, Berkeley Design Advocates
- Monthly Meeting, Water Emergency Transportation Authority (WETA)
- Community Partner Resource Sharing Night

[8] Berkeley, City of. 2023. Feasibility Study: Ferry Facility at Berkeley Municipal Pier. Prepared by GHD. Available: https://berkeleyca.gov/sites/default/files/documents/FINAL_Ferry%20Terminal%20Facility%20Feasibility%20Study%20-%20Berkeley%20Municipal%20Pier.pdf (accessed July 2024)

- Equity Family Night, MLK Jr. Middle School Equity Family Groups
- Weekly Meeting, Berkeley Democratic Club
- West Berkeley Shuttle Board
- Monthly Meeting, Berkeley Youth Commission
- Weekly Meeting, Telegraph for People
- Monthly Meeting, City of Berkeley Parks, Recreation, and Waterfront Commission (Parking and Transportation Focus Project Update)
- Pier-Ferry Presentation, Berkeley Black Ecumenical Ministers Alliance (BBEMA)
- East Bay Conservation Committee
- Save the Bay
- UC Berkeley Urban Studies Student Association
- Egg Hunt Extravaganza
- Bay Festival
- Nototomne Cultural Preservation
- Confederated Villages of Lisjan Nation
- Muwekma Ohlone Tribal Consultation
- Berkeley Breakfast Club
- Berkeley Rotary Club
- Berkeley Parks, Recreation & Waterfront Commission Meeting

During these events, the City collected suggestions made by the community and, to the extent feasible, incorporated the suggestions into the project.[9]

1.2.3 Draft Waterfront Specific Plan and General Plan/Zoning Background

A Draft of the City of Berkeley Waterfront Specific Plan (WSP) was published on the City's website in September 2023, and then updated in October 2024 based on input from the community, city staff, and decision-makers. The Draft WSP intends to provide long-term vision planning for the sustainable development, operation, and maintenance of the Berkeley Waterfront for the next 25 to 50 years. Because the Draft WSP is currently a draft document and has not yet been adopted by the City, policies in the Draft WSP would not apply to the proposed project unless the City adopts the WSP prior to approval of the proposed project. As described in the Draft WSP, ferry access is a proposed allowed use in the Berkeley Waterfront. The project site would include portions of the proposed Waterfront Commercial (WC) Area, the Waterfront Recreation (WR) Area, and the Waterfront Parks (WP) Area as identified in in the Draft WSP. If the City does not adopt the Draft WSP, the existing Berkeley General Plan land use designation and zoning that currently apply to the project site include the Waterfront/Marina land use designations and the Unclassified zoning.

[9] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.

1.2.4 EIR Notice of Preparation

The City of Berkeley distributed a Notice of Preparation (NOP) of the EIR for a 31-day agency and public review period starting on April 18, 2025, and ending on May 19, 2025. In addition, the City held an EIR Scoping Meeting via video and teleconference on May 5, 2025. The meeting provided information to attendees regarding the proposed project and the scope of the EIR. Verbal comments were received from 12 members of the public.

In addition to the verbal comments received during the EIR Scoping Meeting, the City received written scoping comment letters from 6 agencies, 3 Native American Tribes, 7 organizations, and 17 individuals in response to the NOP during the public review period. The NOP is included in Appendix A of this EIR, along with the written EIR scoping comment letters that were received. Table 1-1 summarizes the content of the letters and verbal comments and where the CEQA-related issues raised are addressed in this EIR. The letters are organized by agency, Native American Tribe, organization, and individual resident/community member and provided in alphabetical order.

Table 1-1 EIR Scoping Comments and EIR Location Information

Commenter	Comment/Request	Where Addressed in the EIR
Agency Comments		
Bay Conservation and Development Commission (BCDC)	▪ Consistency with BCDC jurisdiction, policies, and Bay Plan, including: aesthetics, biological resources, dredging, hydrology and water quality, geologic stability, ferry wake, hazardous materials, recreational use, transportation facilities, cultural resources, utilities and service systems, and alternatives	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*, Chapter 3.9, *Land Use and Planning*, and Chapter 5, *Alternatives.*
California Department of Fish and Wildlife	▪ Species that could be present near the project site ▪ Effects of pile driving, dredging, and hydroacoustics ▪ Protected species take consultation ▪ Evaluation of impacts on eelgrass	Comments relevant to CEQA are addressed in Section 3.4, *Biological Resources*.
California Department of Transportation (Caltrans) District 4	▪ Vehicle miles traveled and regional climate and sea level rise planning ▪ Maintaining ADA/bike/pedestrian access	Comments relevant to CEQA are addressed in Section 3.12, *Transportation* and Chapter 2, *Project Description*.
California Office of Historic Preservation	▪ Provides contact information	N/A
East Bay Municipal Utility District	▪ Presence of infrastructure and rights-of-way in project area ▪ Capacity at the Main Wastewater Treatment Plant ▪ Compliance with Model Water Efficient Landscape Ordinance	Comments relevant to CEQA are addressed in Section 3.14, *Utilities and Service Systems*.
Native American Heritage Commission	▪ Identifies requirements for consultation with Native American tribes ▪ Provides recommendations for cultural resource assessments	Comments relevant to CEQA are addressed in Section 3.4, *Cultural Resources* and Section 3.13, *Tribal Cultural Resources.*
Native American Tribe Comments		
Confederated Villages of Lisjan Nation	▪ Tribal cultural resources consultation	Comments relevant to CEQA are addressed in Section 3.13, *Tribal Cultural Resources*.
Nototomne Cultural Preservation	▪ Recommends cultural sensitivity training be provided ▪ States on-site cultural monitor is not necessary	Comments relevant to CEQA are addressed in Section 3.13, *Tribal Cultural Resources*.
Wilton Rancheria, Department of Cultural Preservation	▪ No comments	N/A
Organization Comments		
Berkeley Waterfront Community Coalition	▪ Conflicts related to BCDC policies ▪ Cumulative impacts ▪ Shoreline access equity ▪ Use of historical baseline ▪ Recreational fishing impacts ▪ Dredging, noise, and light impacts on fishing, fish habitat, and birds ▪ Fish habitat impact from dredging, turbulence, turbidity, noise, siltation, ship strikes, and light pollution ▪ Alternatives in the marina ▪ Tree removal ▪ Parking concerns ▪ Bird habitat impacts ▪ Economic factors ▪ Description of infrastructure	Comments relevant to CEQA are addressed in Chapter 2.0, *Project Description*, Chapter 3.0, *Environmental Impact Analysis*, Section 3.1, *Aesthetics*, Section 3.3, *Biological Resources*, Section 3.7, *Hazards and Hazardous Materials*, Section 3.9, *Land Use and Planning*, Section 3.11, *Recreation* and Chapter 5.0, *Alternatives*. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process. Economic factors are not an environmental impact of CEQA. This comment will be considered by the City decision-makers as part of the project approval process.
Citizens for East Shore Parks	▪ Adopts comments submitted by Sierra Club, SPRAWLDEF, and Save the Bay	Please refer to the summaries for the comments made by Sierra Club, SPRAWLDEF, and Save the Bay.
Golden Gate Bird Alliance	▪ Increased boat traffic, wave action, shading from docks, dredging, and runoff on waterbirds, shorebirds, fish habitat, and adjacent wildlife areas ▪ Native plantings and preserving Monterey cypress trees	Comments relevant to CEQA are addressed in Section 3.3, *Biological Resources*.
QT Selkies Gay for the Bay	▪ Reduced access to swimming due to potential reduced parking for swimmers	This comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.

Commenter	Comment/Request	Where Addressed in the EIR
Save the Bay	▪ Recreation and transportation impacts ▪ Consistency with BCDC Bay Plan ▪ Barriers to shoreline access and disruption of views ▪ Alternatives that avoid recreational land use, dredging, and fill ▪ Stormwater pollution ▪ Air quality and greenhouse gas emissions ▪ Sea level rise ▪ Nature-based shoreline solutions	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*, Section 3.1, *Aesthetics*, Section 3.2, *Air Quality*, on 3.6, *Greenhouse Gas Emissions and Energy*, Section 3.8, *Hydrology and Water Quality*, Section 3.9, *Land Use and Planning*, Section 3.11, *Recreation*, Section 3.12, *Transportation*, and Chapter 5, *Alternatives*.
Sierra Club San Francisco Bay Chapter	▪ Habitat impacts near McLaughlin Eastshore State Park ▪ Migratory birds ▪ Private ferry use ▪ Opposes Albany ferry terminal and identifies ▪ Ferry-related impacts (wake, emissions, lighting, noise) ▪ Shoreline resilience (sea level rise, liquefaction, groundwater) ▪ Bird-safe design ▪ Utility risks ▪ Traffic risks related to hazards and air quality ▪ Improved multimodal access (including bicycle infrastructure) at the Marina	Comments relevant to CEQA are addressed in Section 3.1, *Aesthetics,* Section 3.2, *Air Quality,* Section 3.3, *Biological Resources*, Section 3.5, *Geology and Soils*, Section 3.8, *Hydrology and Water Quality*, Section 3.10, *Noise,* Section 3.12, *Transportation,* and Chapter 5, *Alternatives.*
Sustainability, Parks, Recycling, and Wildlife Legal Defense Fund (SPRAWLDEF)	▪ Habitat impacts near McLaughlin Eastshore State Park ▪ Migratory birds ▪ Private ferry use ▪ Opposes Albany ferry terminal and identifies ▪ Ferry-related impacts (wake, emissions, lighting, noise) ▪ Shoreline resilience (sea level rise, liquefaction, groundwater) ▪ Bird-safe design ▪ Utility risks ▪ Traffic risks related to hazards and air quality	Comments relevant to CEQA are addressed in Section 3.1, *Aesthetics,* Section 3.2, *Air Quality,* Section 3.3, *Biological Resources*, Section 3.5, *Geology and Soils*, Section 3.8, *Hydrology and Water Quality*, Section 3.10, *Noise,* Section 3.12, *Transportation,* and Chapter 5, *Alternatives.*
Individual Resident/Community Member Comments		
Claudia Kawczynska	▪ Parking concerns ▪ Recreational impacts ▪ Wave and wake impacts ▪ Traffic safety and impacts on transit ▪ Alternative ferry terminal sites in the Marina	Comments relevant to CEQA are addressed in Chapter 3, *Environmental Impact Analysis,* Section 3.5, *Geology and Soils,* Section 3.11, *Recreation,* Section 3.12, *Transportation,* and Chapter 5, *Alternatives.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Daniel Borgstrom	▪ Reduced parking for those visiting César E. Chávez Park	This comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
David Fielder	▪ Impacts on non-motorized access at HS Lordships Cove ▪ Recommendations on the design of a non-motorized launch ▪ Consider alternatives in the marina or smaller vessels	Comments relevant to CEQA are addressed in Chapter 2, *Project Description,* Section 3.11, *Recreation, and* Chapter 5, *Alternatives*.
David Sheh	▪ Water access and parking for existing recreational users ▪ Outreach to affected communities	Comments relevant to CEQA are addressed in Section 3.11, *Recreation.* Please refer to Section 1.2.2, *Public Outreach* for an overview of public outreach. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.

Commenter	Comment/Request	Where Addressed in the EIR
Erin Diehm (1 of 2)	▪ Cumulative impacts from ferry vessels on Bay wildlife and vegetation ▪ Whale death due to vessel strikes	Comments relevant to CEQA are addressed in Section 3.4, *Biological Resources*.
Erin Diehm (2 of 2)	▪ Consider the Berkeley Pier Ferry Project and Draft Waterfront Specific Plan as a single project ▪ Alternatives: Pier-only/no ferry option, in-marina terminal, and smaller ferry vessels ▪ Use of historical baseline ▪ Parking concerns ▪ Impacts on biological resources, light pollution, noise, turbidity, and energy use ▪ Recommendations for biological resources analysis methodology	Comments relevant to CEQA are addressed in Chapter 3, *Environmental Impact Analysis*, Section 3.1, *Aesthetics* Section 3.3, *Biological Resources*, Section 3.6, Greenhouse Gas Emissions and Energy, Section 3.8, *Hydrology and Water Quality,* Section 3.10, *Noise,* and Chapter 5, *Alternatives.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Gordon Stout (1 of 4)	▪ Loss of control event and storms ▪ Collision risks, wave impacts, and update local wind modeling ▪ Reduce congestion	Comments relevant to CEQA are addressed in Section 3.12, *Transportation*.
Gordon Stout (2 of 4)	▪ Loss of mechanical control of ferry vessels. ▪ Failure risks, emergency protocols and crew training ▪ Relocating dock to a more sheltered location ▪ Electric system reliability	Comments relevant to CEQA are addressed in Section 3.6, *Greenhouse Gas Emissions and Energy,* Section 3.12, *Transportation,* and Chapter 5, *Alternatives*.
Gordon Stout (3 of 4)	▪ States that parking is near capacity ▪ Concerns related to paid parking and protecting recreational accesses ▪ States that the Larkspur ferry terminal is an example of a ferry terminal with adequate parking but that it is "ugly"	Comments relevant to CEQA are addressed in Section 3.1, *Aesthetics.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Gordon Stout (4 of 4)	▪ Parking data ▪ States that the Larkspur ferry terminal is an example of a ferry terminal with adequate parking but that it is "ugly"	Comments relevant to CEQA are addressed in Section 3.1, *Aesthetics.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Hayley Currier	▪ Swim access at Berkeley Marina ▪ Recommends infrastructure like locker rooms, hot showers, and safe access points	Comments relevant to CEQA are addressed in Section 3.11, *Recreation*.
Jack Appleyard	▪ Access to deep water at Oyster Cove for swimmers and windfoilers ▪ Parking concerns	Comments relevant to CEQA are addressed in Section 3.11, *Recreation.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Jessica Ma	▪ Swimmer's concerns ▪ Parking concerns	Comments relevant to CEQA are addressed in Section 3.11, *Recreation.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Jim McGrath (1 of 4)	▪ Parking concerns ▪ Conflicts with BCDC policies ▪ Ridership assumptions ▪ Mode split assumptions ▪ Existing maintenance concerns ▪ Operational costs of the Project	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*, Section 3.9, *Land Use and Planning,* Section 3.11, *Recreation,* and Section 3.12, *Transportation.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Jim McGrath (2 of 4)	▪ Parking concerns	This comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process. Economic factors, including costs, are not an environmental impact of CEQA. This comment will be considered by the City decision-makers as part of the project approval process.

Commenter	Comment/Request	Where Addressed in the EIR
Jim McGrath (3 of 4)	▪ Parking concerns ▪ Complete the Waterfront Specific Plan before pursuing an EIR for the proposed project	Comments relevant to CEQA are addressed in Chapter 3, *Environmental Impact Analysis.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Jim McGrath (4 of 4)	▪ Project Description ▪ Parking concerns ▪ Existing recreational use ▪ Pricing, fares, and project costs ▪ Historical Baseline ▪ Cumulative Impacts ▪ Consistency with applicable plans and policies ▪ Alternative terminal sites (including within the Marina Basin), ferry sizes, and expansion to other modes of public transit ▪ Wave, wind, and turbulence impacts ▪ Secondary impacts related to parking ▪ Urban blight and urban decay ▪ Carbon emissions from electricity ▪ Dredging and fill	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*, Chapter 3, *Environmental Impact Analysis*, Section 3.5, *Geology and Soils,* Section 3.6, *Greenhouse Gas Emissions and Energy,* Section 3.8, *Hydrology and Water Quality,* Section 3.9, *Land Use and Planning,* Section 3.10, *Noise,* Section 3.11, *Recreation*, Section 3.12, *Transportation,* and Chapter 5, *Alternatives* Although neither urban blight nor urban decay is a potential impact identified in Appendix G of the CEQA Guidelines, this comment is addressed in Section 3.9*, Land Use and Planning*. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Julie Allen	▪ Parking concerns ▪ Inclusion of recreational users in planning	Comments relevant to CEQA are addressed in Section 3.11, *Recreation*. Please refer to Section 1.2.2, *Public Outreach* for an overview of public outreach. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Katherine Calvert	▪ Impacts on recreation and transportation ▪ Bay fill areas should remain recreational ▪ Prioritize maintenance over new development ▪ Parking concerns	Comments relevant to CEQA are addressed in Section 3.9, *Land Use and Planning*, Section 3.11, *Recreation*, and Section 3.12, *Transportation.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Kerrily Kitano	▪ Impacts on open-water swimmers ▪ Outreach to open-water swimmers	Comments relevant to CEQA are addressed in Section 3.11, *Recreation*. Please refer to Section 1.2.2, *Public Outreach* for an overview of public outreach.
Paul Kamen (1 of 2)	▪ Ferry service build-out details ▪ Parking concerns ▪ Alternative locations for the project ▪ Consistency with BCDC, Measure L, and the Draft Waterfront Specific Plan ▪ Costs associated with the project	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*, Chapter 3, *Environmental Impact Analysis,* Section 3.9, *Land Use and Planning*, Section 3.11, *Recreation*, and Chapter 5, *Alternatives.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process. The cost of a project is not an environmental impact under CEQA. This comment will be considered by the City decision-makers as part of the project approval process.
Paul Kamen (2 of 2)	▪ Parking concerns ▪ Efficacy of ferry system in response to an emergency	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Paul Young	▪ Consider open water swimmers ▪ Parking concerns ▪ Safe swim zone, access, and rinse-off shower	Comments relevant to CEQA are addressed in Section 3.11, *Recreation*. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Susan Schwartz	▪ Safety risks due to limited emergency access ▪ Alternative emergency access routes	Comments relevant to CEQA are addressed in Section 3.7, *Hazards and Hazardous Materials*.

Commenter	Comment/Request	Where Addressed in the EIR
Virginia Browning	▪ Alternative to repair the pier ▪ Solid waste impacts ▪ Consider César E. Chávez Park ▪ Respect fishing and walking ▪ Parking concerns ▪ Pedestrians, buses, dog walking, and bicycles. ▪ Provides a link to a letter from Mr. Jim Mcgrath dated March 18, 2025	Comments relevant to CEQA are addressed in Section 3.11, *Recreation*, Section 3.12, *Transportation,* 3.14, *Utilities and Service Systems,* and Chapter 5, *Alternatives.* Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process. Please refer above to the comments from Mr. Jim Mcgrath.
Scoping Meeting Comments		
Topic	**Comment/Request**	**Where it Was Addressed**
Biological Resources	▪ Migratory birds, marine life, and halibut fishery, including sensitive species ▪ Compare potential impacts to biological resources from diesel and electric ferry impacts and ship strikes ▪ Light pollution effects on insects and ecosystems	Comments relevant to CEQA are addressed in Chapter 2, *Project Description* and Section 3.3, *Biological Resources* for a discussion of impacts on biological resources.
Construction Impacts	▪ Construction staging, access restrictions, and dredging-related pollution	Comments relevant to CEQA are addressed in Chapter 2, *Project Description*, Section 3.8, *Hydrology and Water Quality*, and Section 3.12, *Transportation*.
Cumulative Impacts	▪ Request evaluation of cumulative impacts from other planned Bay Area ferry terminals	Cumulative impacts are analyzed at the end of each resource section of this EIR in Sections 3.1 through 3.14.
Economic Considerations	▪ Balance environmental impacts with potential economic benefits	This comment will be considered by the City decision-makers as part of the project approval process.
Equity	▪ Paid parking effect on low-income users -- Concerned paid parking may limit access for low-income users ▪ Equitable access to marina facilities	Comments relevant to CEQA are addressed in Chapter 2, *Project Description* for an overview of project details including access to the pier. Economic factors, including costs, are not an environmental impact of CEQA. This comment will be considered by the City decision-makers as part of the project approval process. Part of this comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Governance and Public Engagement	▪ Clarify lead agency roles ▪ Greater transparency ▪ Improved public access to meeting materials and transcripts	Please refer to Chapter 1, *Introduction* for a discussion of the lead, trustee, and responsible agencies for the proposed project. All project materials are provided to the public via the City of Berkeley webpage here: https://berkeleyca.gov/your-government/our-work/capital-projects/berkeley-pier-ferry-access-project
Historical Baseline	▪ Use of pre-pier and restaurant closure conditions as the baseline for environmental impact analysis	Comments relevant to CEQA baseline are addressed in Chapter 3, *Environmental Impact Analysis*.
Hydrology and Water Quality	▪ Hydrological changes and water quality impacts from dredging and construction	Comments relevant to CEQA pertaining to impacts from dredging and construction are addressed in Section 3.8, *Hydrology and Water Quality*.
Navigation and Safety	▪ Navigation and marine safety from abandoned pier sections	Comments relevant to CEQA pertaining to project design hazards are addressed in Section 3.12, *Transportation.*
Noise	▪ Above- and below-water noise impacts	Comments relevant to CEQA are addressed in Section 3.4, *Biological Resources* and Section 3.10, *Noise*.
Parking	▪ Parking availability during construction ▪ Paid parking effect on low-income users ▪ Alternative parking strategies	This comment is related to potential impacts to parking, which is not a CEQA environmental impact in and of itself. Please refer to Chapter 3, *Environmental Impact Analysis* for further information. This comment will be considered by the City decision-makers as part of the project approval process.
Project Alternatives	▪ Include a pier-only alternative without ferry service ▪ Include an alternative for a smaller ferry from the inner harbor	Comments relevant to CEQA are addressed in Chapter 5, *Alternatives*.
Recreational Access	▪ Impacts on parks, open space, and recreation access during construction and operation	Comments relevant to CEQA are addressed in Section 3.11, *Recreation*.
Safety	▪ Tsunami and earthquake risk due to site's location on fill ▪ Emergency access due to one road ingress and egress ▪ Safety of pedestrians and bicyclists on University Avenue	Comments relevant to CEQA are addressed in Section 3.5, *Geology and Soils*, Section 3.7, *Hazards and Hazardous Materials,* and Section 3.12, *Transportation*.

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1.3 Scope and Content Adequacy

1.3.1 Scope and Sources

This EIR addresses impacts related to topics listed in the 2025 CEQA Guidelines Appendix G.

The alternatives chapter of this EIR (Chapter 5) was prepared in accordance with CEQA Guidelines Section 15126.6 and focuses on alternatives that are potentially feasible, avoid or substantially lessen significant effects of the project, and attain most of the basic project objectives. In addition, the alternatives chapter identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and 3 other alternatives.

In preparing this EIR, City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents were consulted. References are included as footnote citation references throughout this EIR document.

1.3.2 Content Adequacy

The level of detail in this EIR is consistent with the requirements of CEQA and applicable case law. CEQA Guidelines Section 15151 provides the standard of adequacy on which this document is based and states the following:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure."

1.4 Lead, Responsible, and Trustee Agencies

1.4.1 Lead Agency

The CEQA Guidelines define lead, responsible, and trustee agencies. The City of Berkeley is the lead agency for the proposed project because it holds principal responsibility for approving the proposed project.

1.4.2 Responsible Agencies

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over a project. The California Department of Fish and Wildlife, WETA/SF Bay Ferry, San Francisco Bay Regional Water Quality Control Board, California Public Utilities Commission, San Francisco Bay Conservation and Development Commission, and California State Lands Commission are responsible agencies under CEQA for the proposed project.

1.4.3 Trustee Agencies

A trustee agency refers to a State agency having jurisdiction by law over natural resources affected by a project. The California Department of Fish and Wildlife and California State Lands Commission are trustee agencies for the proposed project.

1.5 Environmental Review Process

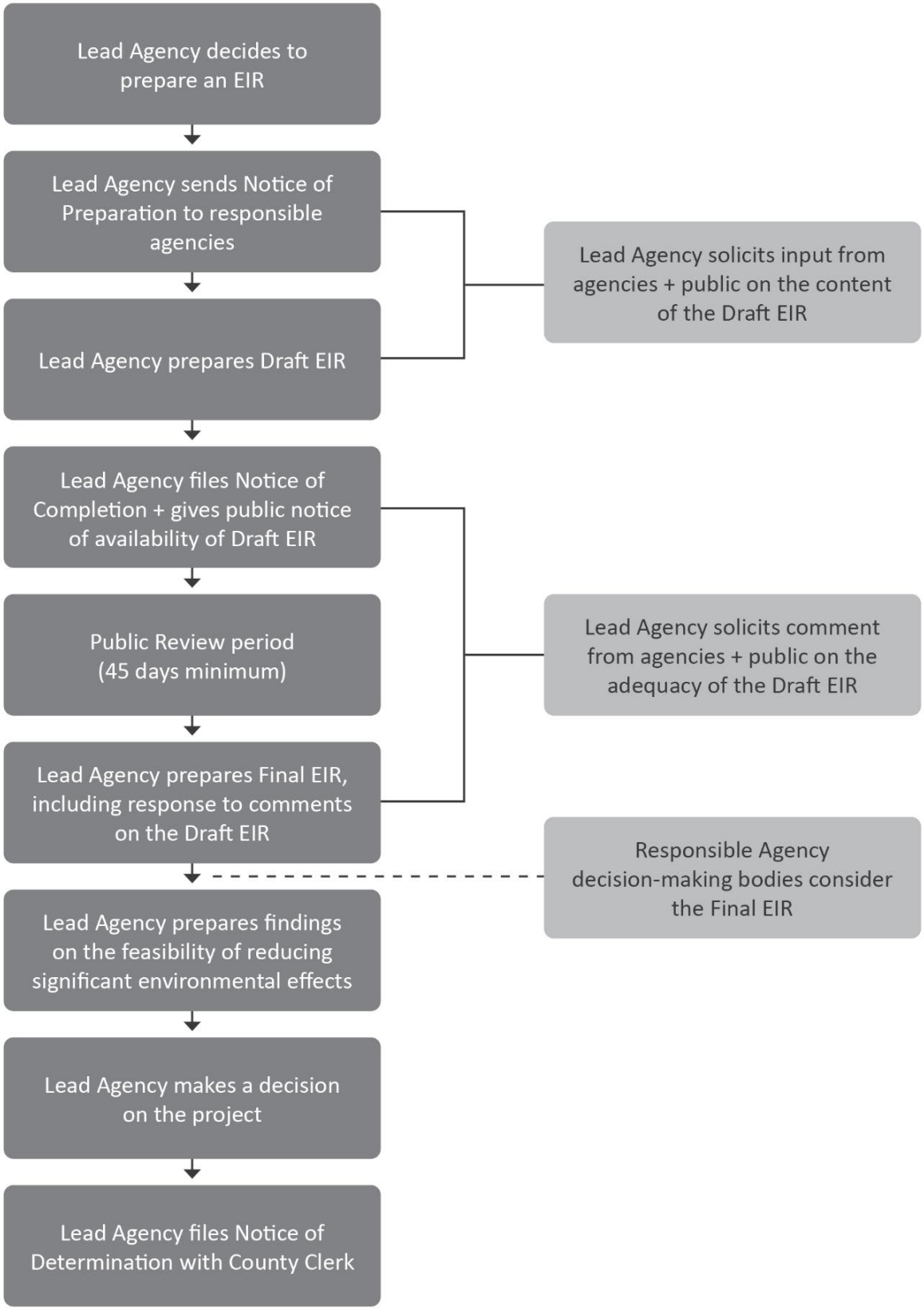
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation**. After deciding that an EIR is required, the lead agency (City of Berkeley) filed a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (CEQA Guidelines Section 15082; *Public Resources Code* Section 21092.2). The NOP for this EIR was posted in the Alameda County Clerk's office for 30 days. In addition, the City of Berkeley held an EIR Scoping Meeting on May 5, 2025. Notifications of the NOP were also sent to federal, State, regional, and local agencies; Native American Tribes; residents and community members who requested updates regarding the proposed project; and local businesses via e-mail. A newspaper notice in the Berkeley Voice ran on April 18, 2025.
2. **Draft EIR.** This Draft EIR contains the following required components: a) table of contents or index; b) summary; c) project description; d) environmental setting as part of the various topical sections; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing, and unavoidable impacts) as part of the various topical sections; f) a discussion of alternatives; g) mitigation measures as part of the various topical sections; and h) discussion of irreversible change (CEQA Guidelines Sections 15120 through 15132).
3. **Notice of Completion.** The lead agency must file a Notice of Completion (NOC) and Public Notice of Availability (NOA) of a Draft EIR with the State Clearinghouse[10] when it completes a Draft EIR. The lead agency must post the NOC in the County Clerk office for 30 days (Public Resources Code Section 21092 and 21092.3) and send a copy of the NOA to anyone requesting it (CEQA Guidelines Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (*Public Resources Code* Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (*Public Resources Code* Section 21091). Given such requirements, this Draft EIR will be noticed via publication in a newspaper of general circulation and involve a 45-day public review and comment period.
4. **Final EIR.** A Final EIR must include the following components: a) the Draft EIR; b) copies of comments received during public review; c) list of persons, organizations, and public agencies commenting; and d) responses to comments (CEQA Guidelines Section 15132).

[10] The State Clearinghouse is a division of the Governor's Office of Land Use and Climate Innovation (LCI), formerly known as the Office of Planning and Research.

5. **Final EIR Certification.** Prior to making a decision on the proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency (i.e., Berkeley City Council); and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving the proposed project (CEQA Guidelines Section 15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove of the proposed project because of its significant environmental effects; b) require changes to the proposed project to reduce or avoid significant environmental effects; or c) approve the proposed project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (CEQA Guidelines Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations**. For each significant impact of the proposed project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the proposed project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the proposed project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or proposed project alternatives infeasible (CEQA Guidelines Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects (CEQA Guidelines Section 15097).
9. **Notice of Determination.** The lead agency must file a Notice of Determination (NOD) after deciding to approve a project for which an EIR is prepared (CEQA Guidelines Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (*Public Resources Code* Section 21167[c]).

Figure 1-1 Environmental Review Process for an EIR



2 Project Description

This chapter describes the proposed project, specifically the project location and setting, existing project site characteristics, project objectives, proposed project components, construction and operational details, emergency operation, and discretionary actions and required approvals.

2.1 Project Location and Setting

2.1.1 Regional Location

The City of Berkeley (City or Berkeley) is located in northern Alameda County within the San Francisco Bay Area (see Figure 2-1). Berkeley is bounded by the City of Albany and the unincorporated community of Kensington to the north, by Contra Costa County and the City of Oakland to the east, the Cities of Oakland and Emeryville to the south, and the San Francisco Bay to the west. The City of Berkeley is surrounded by the urban and suburban areas of Albany, Kensington, and Oakland to the north and south and the open space of the hillsides to the east. Berkeley encompasses approximately 17.7 square miles, of which approximately 7.2 square miles is comprised of submerged/reclaimed waters of the San Francisco Bay to the west of the city. The city is highly urbanized and developed with a mix of land uses, including low density residential neighborhoods, mixed-use and multi-family residential areas, offices, retail, faith-based and cultural institutions, schools, hotels, recreational uses, parking, and public streets. Regional access to the City of Berkeley is provided via Interstate 80 (I-80); Interstate 580 (I-580); State Route 123 (SR 123), also known as Ashby Avenue in Berkeley; and State Route 13 (SR 13), also known as San Pablo Avenue in Berkeley.

2.1.2 Project Site Setting

The project site is located within the San Francisco Bay waters and the Berkeley Waterfront, and is bounded by McLaughlin Eastshore State Park, the Berkeley Marina Basin, and the San Francisco Bay to the north; Frontage Road to the east; San Francisco Bay waters south of University Ave and parking lots to the south; and San Francisco Bay waters to the west and south (shown in Figure 2-2). Developed areas adjacent to the project site include commercial and government buildings, the Cal Sailing Club and UC Aquatic Center, as well as parking lots. The closest residential buildings are located east of the project site (just east of I-80); however, there are live-aboard boats in the Berkeley Marina Basin. Recreational areas near the project site include César E. Chávez Park, Horseshoe Park, and Marina Mall to the north, Shorebird Park to the southeast and South Sailing Basin to the south-southeast. Natural habitat areas within one mile of the project site include portions of McLaughlin Eastshore State Park (Berkeley Meadow, Strawberry Creek, and the North and South Sailing Basins submerged tidelands), as well as Berkeley Aquatic Park. All ground disturbing work would occur west of I-80. The project does not include any ground disturbing work east of I-80.

Vehicle access to the project site is available via University Avenue and Seawall Drive. Bicycle and pedestrian access is also available at multiple locations at the project site, including existing sidewalks and pathways for pedestrians and bicyclists on both sides of University Avenue, the Bay-side of Seawall Drive, and completed portions of the Bay Trail Extension. AC Transit bus route 51B provides public bus access to the project site.

Figure 2-1 Regional Location



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Fig 1 Regional Location

Project Location

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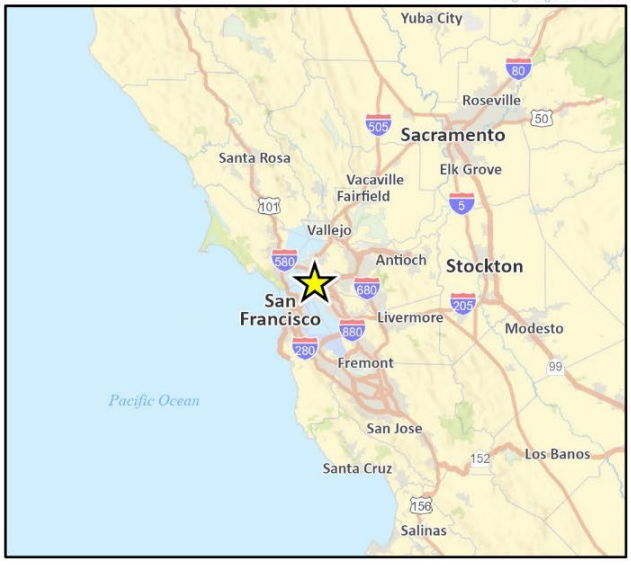
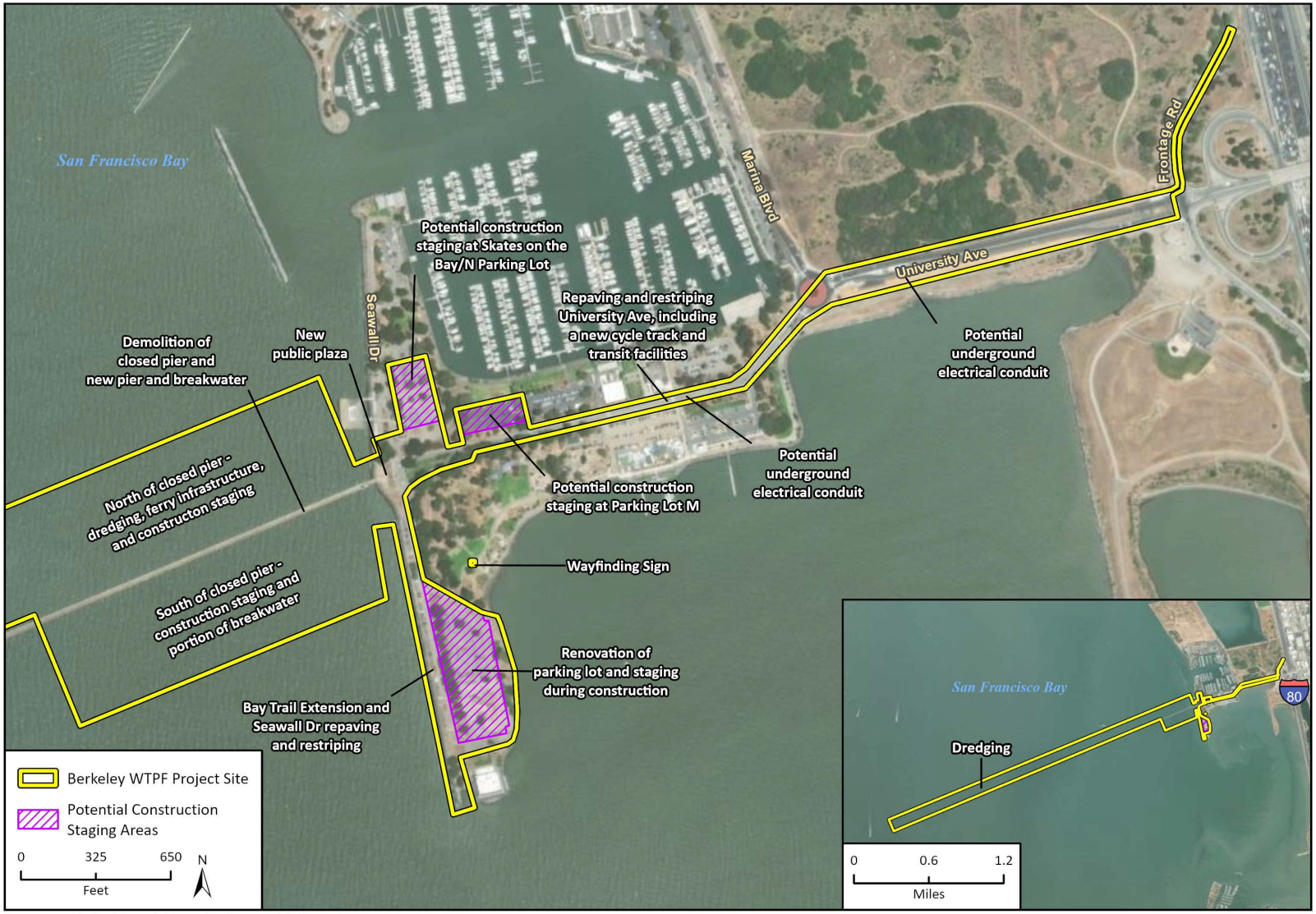


Figure 2-2 Project Site Location



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Fig X Berkeley WTPF Project Footprint

2.2 Existing Project Site Characteristics

The project site is situated at the Berkeley Waterfront along the San Francisco Bay. The project site (shown in Figure 2-2) specifically encompasses the closed Berkeley Pier, including the entry area for the Berkeley Pier; the San Francisco Bay waters surrounding a portion of the closed Berkeley Pier; the existing parking lot off Seawall Drive; the Skates on the Bay parking lot and parking lot M (for construction staging); roadways with landscaping (University Avenue and Seawall Drive); and various internal pathways and sidewalks.

There are some parks, trails, and buildings located near where construction for the project would occur. Shorebird Park, Adventure Playground and portions of the Bay Trail Extension, as well as other internal pathways and landscaping, are located near the project site. There are six commercial buildings located off University Avenue and Seawall Drive near the project site. No changes to these parks, trails, and buildings are proposed as part of the project.

2.3 Project Objectives

The project objectives are as follows:

- Enhance public access and recreational opportunities at the Berkeley Waterfront that:
  - Develop or enhance public pier facilities at the City of Berkeley Waterfront.
  - Provide sufficient public access and recreational opportunities at the Berkeley Waterfront that meet regional needs, consistent with BCDC Bay Plan Policies maximizing access to the Bay.
  - Minimize environmental impacts by considering existing infrastructure and sea level rise projections.
  - Encourage the use of public transit, bicycle, and other forms of active transportation and sustainable travel to access the site.
- Provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco that:
  - Improves regional connectivity and resiliency with enhanced public transportation choices for East Bay residents, including for accessing jobs in San Francisco and other locations along the Bay for commerce and recreational purposes, and to address existing deficiencies in the Transbay transportation network.
  - Reduces the use of single-occupancy vehicles for Transbay trips, thereby reducing greenhouse gas and air quality emissions and decreasing congestion on the regional roadway system, consistent with regional and Statewide goals.
  - Provides travel times and costs that are competitive with other Transbay modes of travel.
  - Provides public transit facilities that are compatible with operations and recreational activities at the Berkeley Waterfront.
  - Provides navigable conditions for safe and efficient operation of ferry vessels.
  - Provides options for emergency response and transportation services in case of an emergency, such as a natural or human-caused event that disables roads, other transit, bridges, and/or tunnels.

2.4 Existing General Plan and Zoning

The project site has a Berkeley General Plan land use designation of Waterfront/Marina.[1] The General Plan describes the Waterfront/Marina as areas "intended to maintain and preserve areas of Berkeley adjacent to the Bay for open space, recreational uses, waterfront-related commercial and visitor services, boating, and water transit facilities." In 1986, the City Council adopted the Waterfront Specific Plan and Waterfront Amendment to the General Plan; however, these documents only have specific jurisdiction over the uplands and tidelands east of Marina Boulevard and do not include the project site.[2] The 1986 Waterfront Specific Plan generally identifies priority uses for the Bay shoreline within Berkeley, which include continuous shoreline public access, wildlife habitat, recreational uses, playing fields, active recreation facilities, cultural and art facilities, other public uses.

The project site is also subject to the Berkeley Marina Master Plan, which was adopted in 2003. The 2003 Berkeley Marina Master Plan establishes a long-term strategy for the development and enhancement of the Berkeley Marina. Through its guiding principles, the Berkeley Marina Master Plan emphasizes the maintenance and perseverance of the Marina as a recreational and open space resource and prioritizes enhanced public access and expansion of recreational facilities. New development described in the Berkeley Marina Master Plan is limited to replacing and remodeling existing commercial and non-profit facilities and some limited expansion considered on a case-by-case basis. The Plan identifies specific capital improvement projects to be implemented at the Marina.[3] The 2003 Plan includes neither a ferry facility nor significant capital improvements at the Pier; however, this document was adopted 12 years before the Pier was closed due to structural deterioration.

In 2022, the City initiated a public planning process to develop a new Waterfront Specific Plan for the area west of Marina Boulevard that would provide a long-term vision and guidance for the sustainable development, operation, and maintenance of the Berkeley Waterfront for the next 25 to 50 years. The Waterfront Specific Plan is currently a draft document and has not yet been adopted by the City. Given that the Waterfront Specific Plan has not yet been adopted, the policies in the Draft Waterfront Specific Plan do not apply to the project. However, if the Draft Waterfront Specific Plan were adopted in the future, the Plan provides that ferry vessel access would be an allowed use in the Berkeley Waterfront.

The project site has a zoning designation of Unclassified (U). Within the Unclassified zoning designation, allowed uses include all uses not prohibited by law. A Use Permit would be required to establish any new use, consistent with the procedures of Berkeley Zoning Code Section 23.208.020, which include a public hearing.

The proposed project would not require amendments to the City General Plan or Zoning Code.

[1] Berkeley, City of. 2001. Berkeley General Plan Land Use Element. Available: https://berkeleyca.gov/sites/default/files/documents/02_Land%20Use%20Element-FINAL.pdf (accessed December 2025).
[2] Berkeley, City of. 1986. Waterfront Master Plan. Adopted October 7, 1986. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/waterfront-master-plan (accessed March 2025)
[3] Berkeley, City of. 2003. Marina Master Plan. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-marina-master-plan (accessed December 2025).

2.5 Proposed Project Components

The following discussion describes the different components associated with the proposed project. For an overview of the components being proposed, please refer to Figure 2-3. For project renderings, please refer to Figure 2-4.

2.5.1 Waterside

Proposed New Pier and Breakwater

The proposed project would demolish approximately 1,280 feet of the approximately 2,970-foot-long closed pier to accommodate the new pier, which is proposed to be approximately 1,080 feet in length.

The City would build a new pier at the existing location of the closed Berkeley Pier, as well as a new breakwater, all of which would provide the public with new recreational access to the San Francisco Bay. Figure 2-5 shows the configuration of the proposed pier and breakwater, also known as Option 1A or the "sword design". This option was selected as the preferred configuration for the breakwater during the project feasibility phase, which included a public engagement process and was presented to City Council and WETA Board in late 2021/early 2022. The final feasibility study was published in 2023.[4]

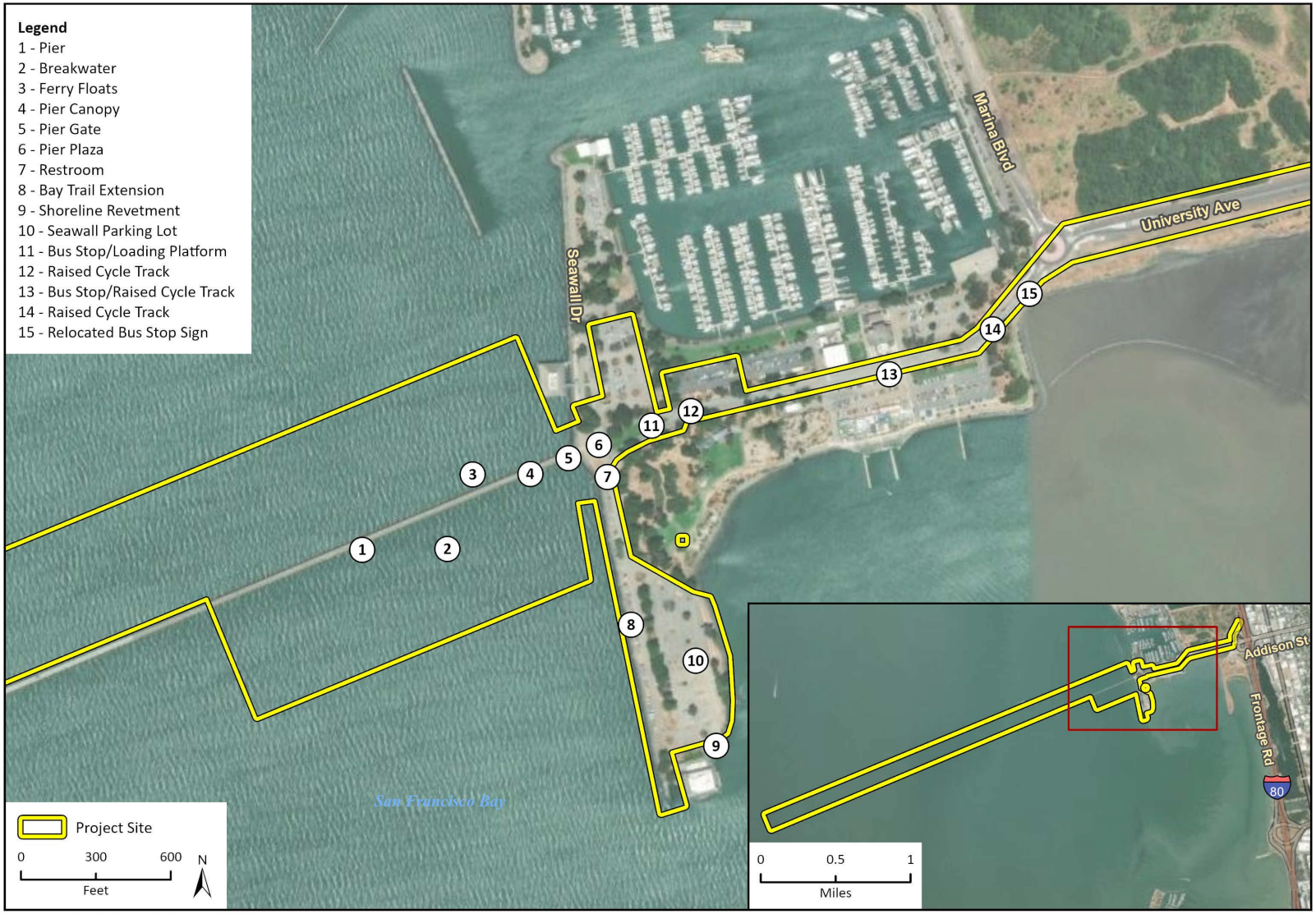
The new pier and breakwater would have safety railings, public amenities (fish cleaning station, seating, shade canopy, and security gates). In addition, at the entrance to the pier, the City is proposing a gate that would remain open to the public, except in cases where public safety requires closure, such as during a tsunami evacuation, high wind advisory, or other emergency situations. The proposed pier would be a maximum of 1,080 feet in length and would have a width of 22 feet. The reinforced concrete deck comprising the pier would be an approximately 2-foot-thick slab. Piles for the pier are discussed in Section 2.7.2 below.

The proposed new breakwater would create a safe harbor from the predominant southwesterly wind and waves for ferry vessel charging and boarding on the north side of the new pier. The breakwater would also offer recreational pedestrian access. The proposed breakwater would be approximately 400 feet in length and would have a width of 15 feet. The reinforced concrete deck comprising the breakwater would be an approximately 2-foot-thick slab. Piles for the breakwater are discussed in Section 2.7.2 below.

The proposed pier would include a shade canopy, with the purpose of shielding ferry vessel users from the sun and rain while waiting to board a vessel. The canopy would be about 16 feet wide and slope from 11.75 feet to 16-feet in height. It would be constructed of tempered glass or polycarbonate roof panels on steel frames. Guardrails would be proposed along the length of the pier and breakwater with a maximum height of approximately 4 feet. The pier would allow for emergency access for both fire trucks and ambulances to access the pier.

[4] Berkeley, City of. 2023. Feasibility Study. Ferry Facility at Berkeley Municipal Pier. Available: https://berkeleyca.gov/sites/default/files/documents/FINAL_Ferry%20Terminal%20Facility%20Feasibility%20Study%20-%20Berkeley%20Municipal%20Pier.pdf (accessed February 2025)

Figure 2-3 Overview of Proposed Project Components



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23-15427 Exhibits
Exhibit 6 Project Overview

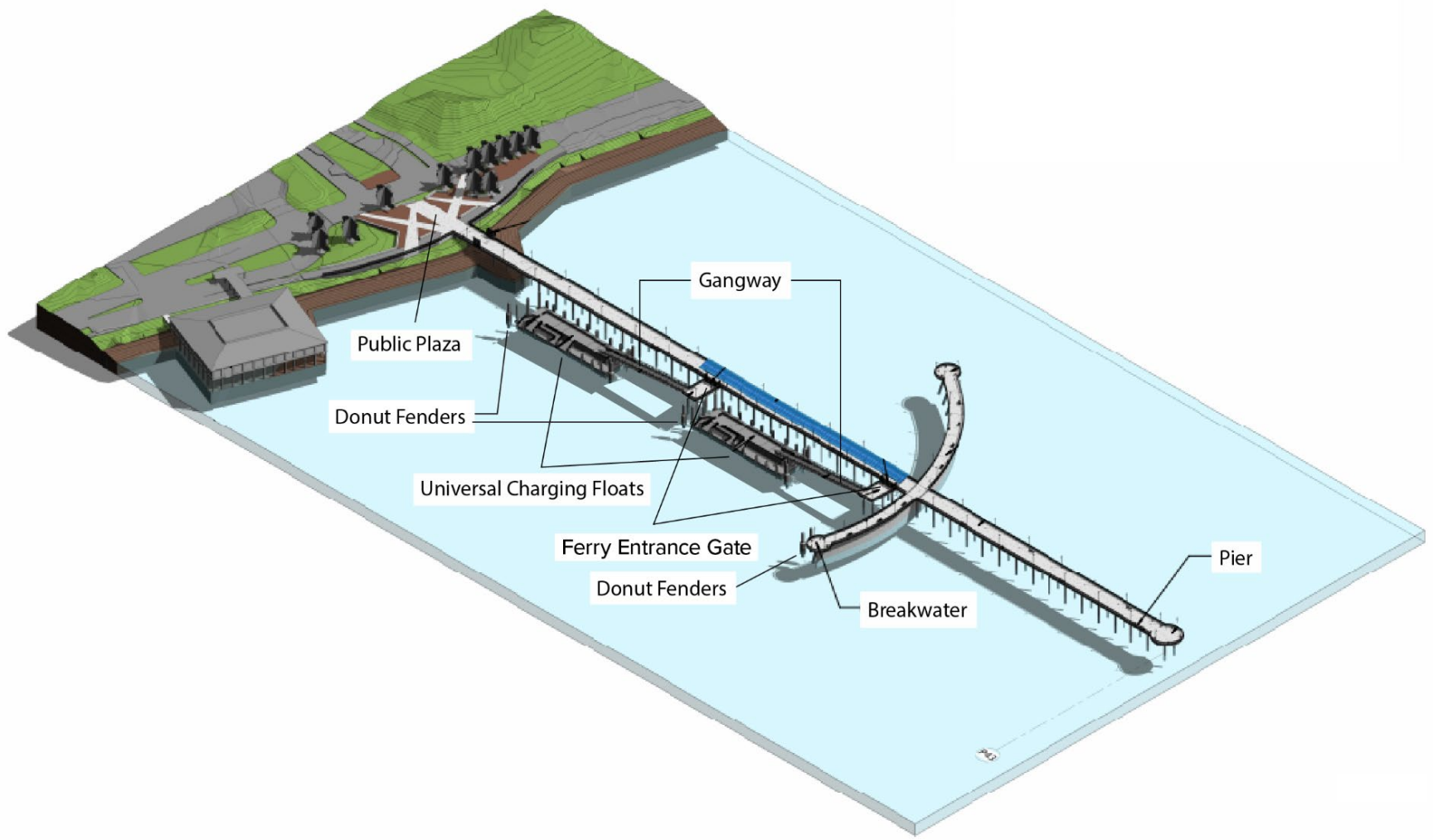
Figure 2-4 Project Waterside Rendering[5]



Source: Imagery provided by Roumel Butiong, Robin Chiang & Company, 2026

[5] The project would include a Universal Charging Float or UCF featuring a 1.351 MWh Echandia battery weighing approximately 47,554 pounds. The UCF has not yet been designed and is not included in this rendering. UCF dimensions may differ from what is shown in this rendering.

Figure 2-5 Proposed Pier, Breakwater, and Ferry Vessel Infrastructure Layout



The proposed pier would have a lifespan of approximately 50 years. The proposed pier would be designed to meet the standards for a Risk Category IV, Essential Facility, in compliance with the International Building Code Section 1604.5. This risk category is designated for structures that are considered to be essential in that their continuous use is needed, particularly in response to natural or man-made disasters.[6] In accordance with standards as set by the American Society of Civil Engineers (ASCE), the proposed pier would comply with ASCE Risk Category IV requirements and base design loads. The project design takes into account projected sea level rise.[7]

Proposed Recreational Amenities

The proposed pier and breakwater would provide areas for passive recreational activities, such as walking, sightseeing, and fishing. At the end of the pier and each end of the breakwater, the deck would be shaped in the form of a rounded terminus, which would be accomplished with slight cantilevering and would not require additional piles. Interpretive and educational signs would be placed along the pier and breakwater to provide the history of the Berkeley Waterfront and notable geographic landmarks. Benches and seats, which would be bolted to the pier deck for security, would be located intermittently along the length of the pier. A fish cleaning station would be provided at the western terminus of the pier, and would have cold water potable taps, and drain directly into the Bay. Standard covered trash cans and fishing line recycling receptacles would be provided at regular intervals along the pier and breakwater.

Proposed Ferry Vessel Infrastructure

The proposed ferry vessel infrastructure would include up to two 120-foot-long and 10-foot-wide gangways[8] that would bring passengers from the pier to the two proposed boarding floats[9], which would measure approximately 135 feet in length and 42 feet in width. Each float would include 4 to 6 steel guide piles to moor the floats in place. In addition, there would be a total of 6 donut fenders (2 at the end of each float and 2 near the breakwater), each of which would be 6-feet in diameter and would require a 3-foot pile.

The floats will be designed as Universal Charging Floats (UCF) that include electrical charging equipment to charge the electric ferry vessels. The UCF is a floating barge-like structure that would be used to rapidly charge the battery electric ferry vessels. The UCF contains electrical infrastructure, including switch gear, transformers, converters, and vessel charging towers. The electrical components will convert the 4MW, 12kV input power from the shore, to the 1,000V direct current power necessary to charge the ferry vessels. In addition, the UCF includes batteries (Echandia, LTO-chemistry lithium-ion batteries) with a total capacity of 1,351 kWh. Echandia batteries are designed for marine installations. These batteries would allow for load leveling electrical demand, as well as provide charging redundancy in case of short-term power disruptions. The batteries would be monitored by Echandia's battery management system, provide real time monitoring of temperatures, gas detection, state-of-charge, and state-of-health to prevent thermal runaway, with direct input to ventilation and firefighting systems. The system is designed to limit the risk for large scale battery failure, fire, and explosion. In addition, the UCF would be equipped with cooling equipment (i.e., HVAC units, ventilation fans, cooling pumps, cooling skids); smoke-

[6] International Building Code. 2024. 2024 International Building Code Table 1604.5 Risk Category. Available: https://codes.iccsafe.org/s/IBC2024V1.0/chapter-16-structural-design/IBC2024V1.0-Ch16-Sec1604.5 (accessed February 2026).
[7] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study. Prepared for City of Berkeley. December.
[8] Gangway is defined as a raised platform or walkway that provides a passage. For the proposed project, the gangway would provide passage from the pier to the float.
[9] Floats are defined as structures buoyant in water.

tight spaces; fire alarms; and closed-circuit television (CCTV) in the battery room, which would provide a direct feed to WETA's Central Bay Operations and Maintenance Facility. In addition, the UCF would include a fire suppression system for the batteries comprised of a primary fire suppression (direct foam injection system), secondary fire suppression (aerosol fire suppression), and tertiary fire suppression (freshwater deluge system).

Additional ferry vessel infrastructure would include:

- Fare collection and security systems with associated communication systems;
- Electrical power line receptacles for operation and maintenance;
- Lighting on gangway, adjustable ramps, and on float;
- Loading ramp lift system;
- Water lines and hose bibs for maintenance and fire suppression;
- Landing platform connecting the Pier to the gangway, approximately 40-feet wide and 16-feet long;
- Security gates at the entrance to the landing platforms, equipped with two doors measuring approximately 8 feet high and 4 feet wide each, with access control, electronic signage, and security cameras.

Figure 2-5 illustrates the layout of the proposed pier, breakwater, and ferry vessel infrastructure. In the first phase of the project, the City would implement one gangway and one float, which would allow for the docking of one ferry vessel at a time. In a future phase, the project would implement a second gangway and second float, which would allow for the docking of a second ferry vessel while the first float is also in use.

The waterside improvements also include dredging for the operation of ferry vessels. The extent of dredging is shown in Figure 2-2.

2.5.2 Landside

Public Plaza

The project would replace the existing entrance to the pier with a new public plaza. This would include the demolition of the existing sundial located at the entrance to the closed pier. Grading for the public plaza would increase the existing elevation by approximately 5.5 feet to account for future sea level rise. The proposed public plaza would include ADA-accessible durable surfacing with artistic inlay patterns, a restroom, bicycle lockers, free-standing public seating, paving, lighting, drainage, and landscaping. The public restroom would be located in the southeastern portion of the plaza. The restroom would be approximately 18-feet in length and 8-feet in width and would include two to three stalls, one of which would be Americans with Disabilities Act (ADA) compliant. Throughout the plaza, landscaping, including low shrubs and small trees are proposed. In the existing vegetated median area 50 feet to the east of the plaza, the sculpture known as "The Guardian" would be moved slightly to the north, in order to be centered in the reconfigured median. Figure 2-6 shows the plans for the proposed public plaza.

University Avenue

Proposed Circulation and Roadway Improvements

As part of the proposed project, University Avenue would be reconstructed and restriped between Marina Boulevard and Seawall Drive (see Figure 2-7 through Figure 2-10). The existing sidewalks along this segment of University Avenue would be repaired/replaced within their existing footprint as needed. In addition, as discussed further below under the *Proposed Recreational Amenities* and *Proposed Transit Improvements* subsections, a raised cycle track and bus stops with bus passenger loading islands would be installed along this segment of University Avenue. There would be no change to the existing circulation for vehicles on University Avenue and Seawall Drive. The typical existing cross section for University Avenue includes an approximately 40-foot-wide roadway with approximately 7-foot-wide sidewalks on each side (if a sidewalk is present in a certain section). With the proposed project, the typical cross section for University Avenue would be revised to be an approximately 26-foot-wide roadway, 3-foot buffer, and 12-foot-wide cycle track, with approximately 6-foot-wide sidewalks on each side.

Proposed Recreational Amenities

The proposed project would include a grade-separated and dedicated two-way raised cycle track, 12 feet wide, on the south side along University Avenue between Marina Boulevard and Seawall Drive (approximately 1,800 feet in length). The proposed cycle track would connect with the existing Bay Trail Extension just south-west of the existing roundabout. Please refer to Figure 2-7 through Figure 2-10, which show the proposed raised cycle track on University Avenue. A minimum of twelve bicycle lockers, which can hold 24 bicycles total, would be installed at the public plaza; six bike racks would be placed next to the bicycle lockers in the public plaza; and four bike racks would be installed at the south end of Seawall Drive. Additional bike racks or lockers may be installed within paved areas in the future if needed.

Proposed Transit Improvements

AC Transit Bus Route 51B connects the Waterfront and Rockridge BART via College Avenue, Downtown Berkeley BART, and University Avenue. Within the project site, there are three bus stops for AC Transit Bus Route 51B: (1) University Avenue and Marina Boulevard; (2) University Avenue and the Sports/Bait Shop; and (3) University Avenue and Seawall Drive. Only one out of every three scheduled bus trips between 7 a.m. and 9 p.m. serves the Waterfront; all other trips terminate at the Berkeley Amtrak station at 4th Street, resulting in a frequency of two (2) buses every hour at the Waterfront.[10]

Proposed transit improvements along University Avenue would include the relocation of the existing bus stop, located just before the existing crosswalk in the westbound direction south-west of the roundabout located at the University Avenue/Marina Boulevard intersection, to the far side of the existing crosswalk (see Figure 2-7) for improved pedestrian safety. Additional improvements would include the placement of a bus passenger loading island on eastbound University Avenue just north of the South Cove West Parking Lot (see Figure 2-8) and at the western terminus of University Avenue (see Figure 2-10). Along the south side of University Avenue, a three-bus parking and loading/unloading zone is proposed, with a length of approximately 170 feet, adjacent to a 3-foot

[10] AC Transit. 2025. 51B AC Transit Schedule. Effective August 10, 2025. Available: https://www.actransit.org/sites/default/files/timetable_files/51B-2025_08_10.pdf. (accessed February 2026).

Figure 2-6 Proposed Public Plaza Layout

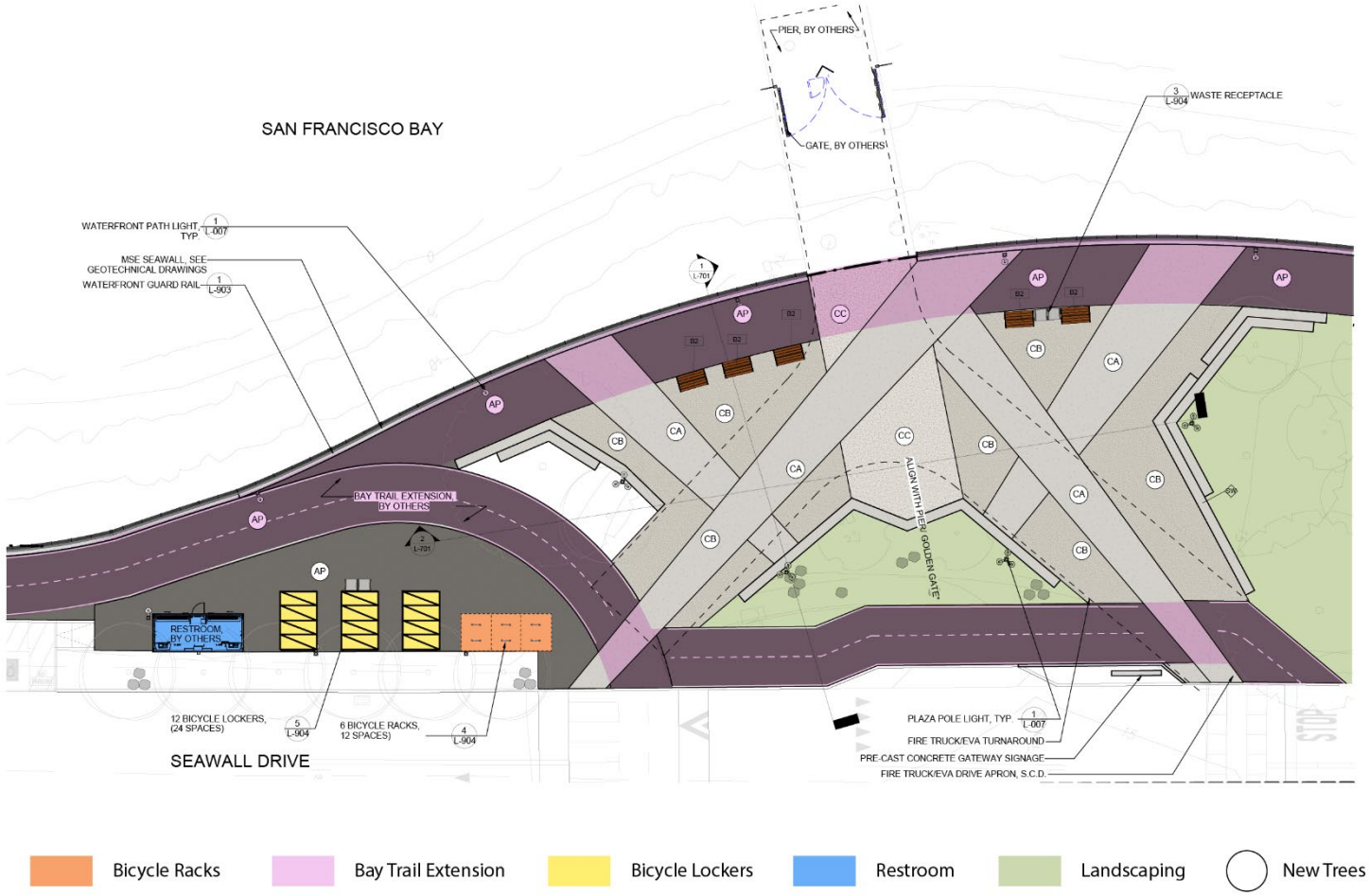
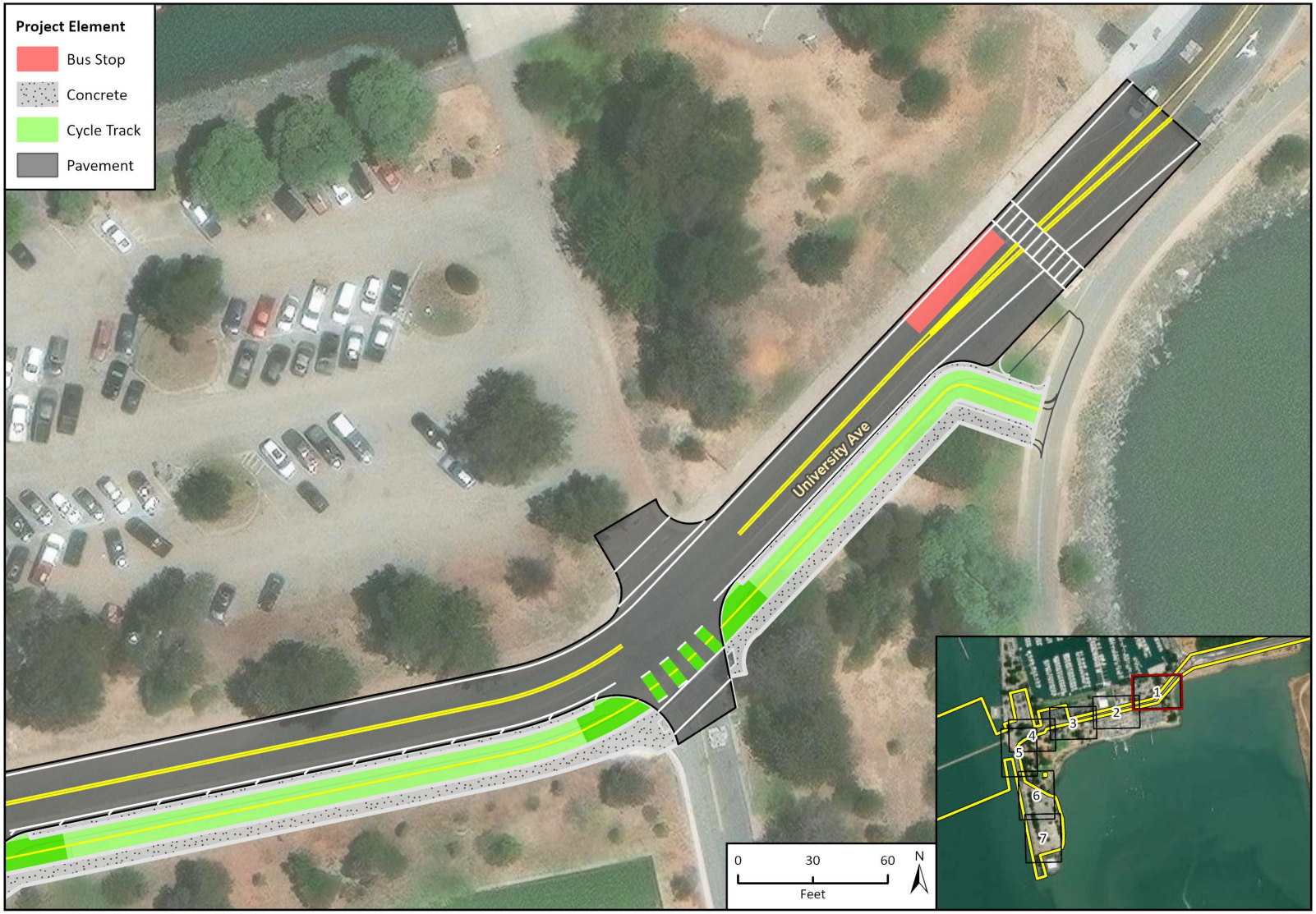


Figure 2-7 University Avenue Improvements (1 of 4)



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Fig 2-X University Avenue Improvements

Figure 2-8 University Avenue Improvements (2 of 4)



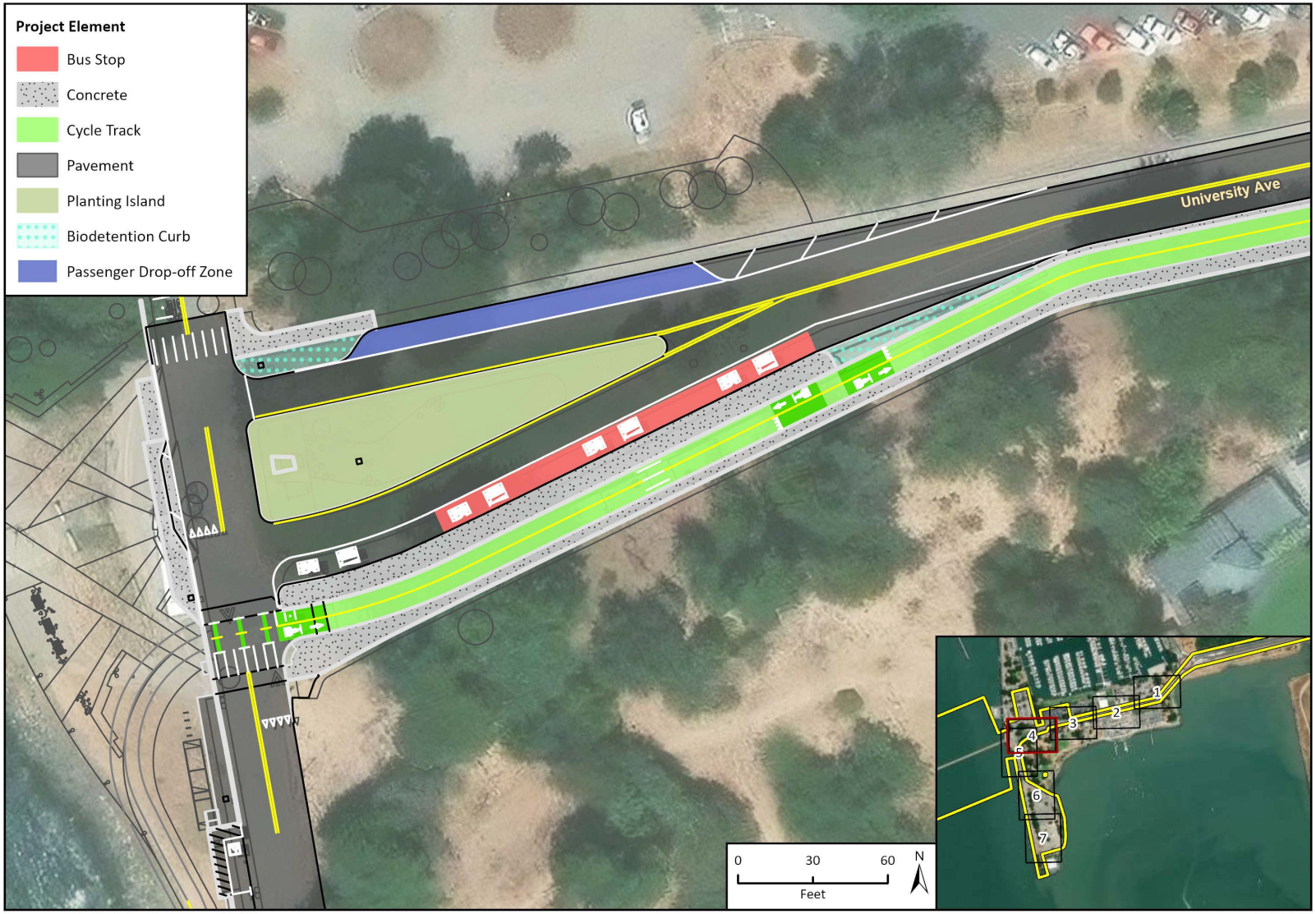
Figure 2-9 University Avenue Improvements (3 of 4)



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Fig 2-X University Avenue Improvements

Figure 2-10 University Avenue Improvements (4 of 4)



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23-15427 EPS
Fig 2-X University Avenue Improvements

buffer and the 12-foot two-way cycle track, as described in the *Proposed Recreational Improvements* section above (see Figure 2-10). A passenger loading zone would be located on the north side of the terminus of University Avenue.

Seawall Drive

Proposed Circulation and Roadway Improvements

As part of the proposed project, circulation for vehicles on Seawall Drive would remain the same. The general alignment of Seawall Drive roadway would stay the same. The pavement of Seawall Drive would be reconstructed. Parallel parking with permeable paving is proposed along the western side of Seawall Drive south of University Avenue (see Figure 2-11). The Bay Trail Extension would be located to the west of the parallel parking area, separated by a 2- to 3-foot buffer.

Proposed Recreational Amenities

The proposed project would include implementing a portion of the Bay Trail Extension, south of the pier along Seawall Drive. The proposed Bay Trail Extension would extend along the western edge of Seawall Drive and would consist of a 12-foot-wide paved path with shoulders approximately 2 feet in width. Interpretive and educational signs, such as signs explaining the history of the Berkeley Waterfront and notable environmental or geographic landmarks, would be placed along the proposed Bay Trail Extension. Where the Bay Trail Extension or recreation amenities are adjacent to Seawall Drive, the City would implement safety measures to create a barrier between vehicles and pedestrians (such as parking areas, boulders, bollards, fence, or guardrail).

Proposed Vehicle Parking

The proposed project would renovate the existing parking lot located east of Seawall Drive. The proposed project includes the removal of the existing asphalt and concrete pavement, street lights, and vegetation, including the vegetated parking islands, trees, and the berm.

Figure 2-12 and Figure 2-13 provide an overview of the proposed parking layout, which shows that there are several rows of parking spaces within the east parking lot, west of Seawall Drive with views of the Bay, on the eastern edge of the parking lot with views of the Bay, and adjacent to Shorebird Park. The majority of the parking (all spaces except for ADA stalls and EV stalls) would be constructed from a permeable pavement material (such as stabilized gravel or permeable pavers). Vehicles would access the parking lot from Seawall Drive and would navigate the parking lot using new proposed signage. Paths and crosswalks would allow for safe pedestrians and cyclists navigation through the parking lot. The proposed parking lot would also include safety lighting and landscaped areas as required for stormwater treatment.

The existing Seawall Drive Parking lot includes approximately 320 parking spaces, and the parking off Seawall Drive adjacent to the Bay and south of the pier entrance includes approximately 84 parking spaces for a total of 404 existing parking spaces across the project site. The proposed project would replace all of the existing parking spaces with 400 to 450 new parking spaces (pending final design), including ADA-accessible and EV parking spaces.

Figure 2-11 Proposed Landside Recreation and Parking Facilities (1 of 3)



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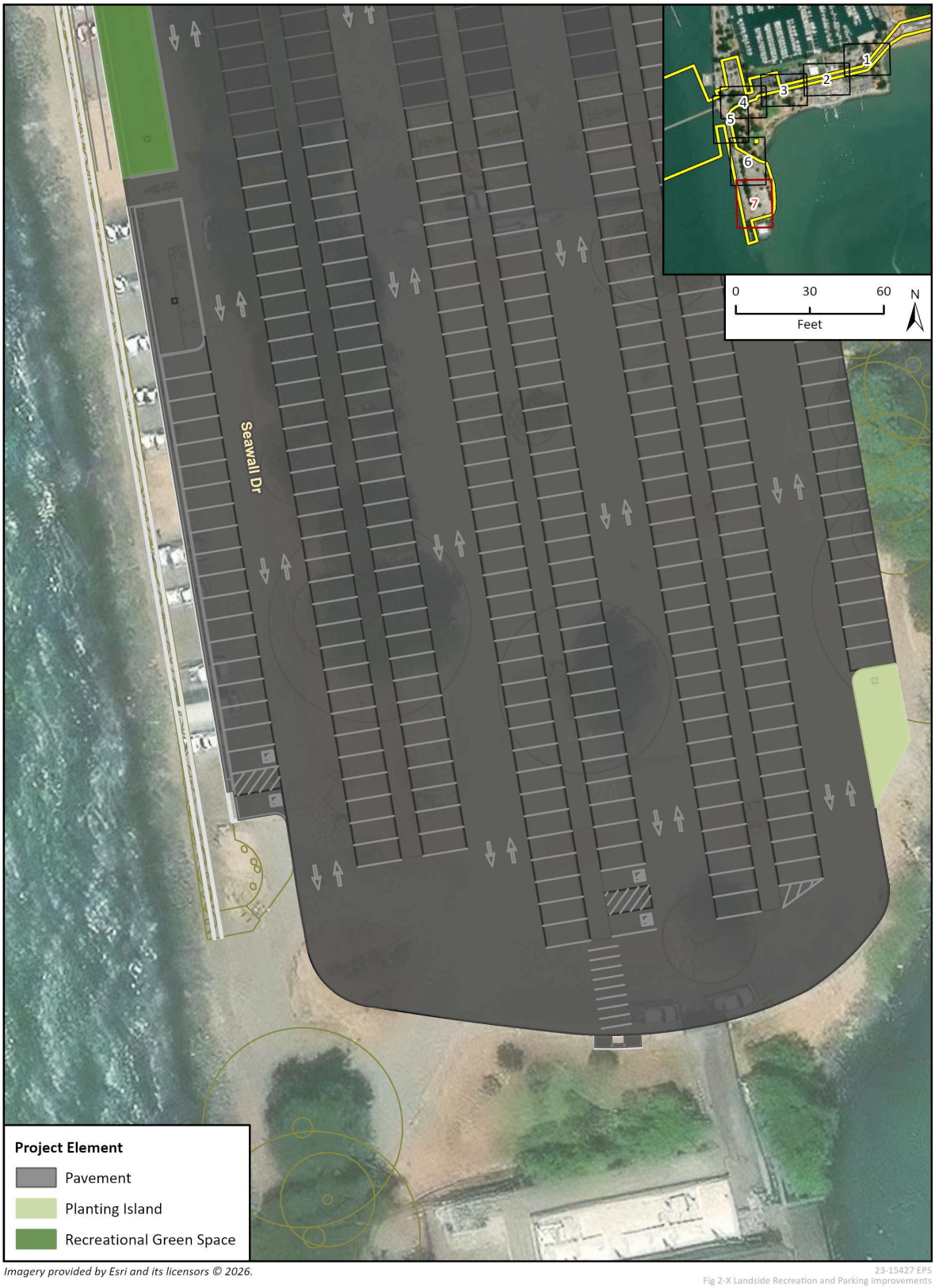
23-15427 EPS
Fig 2-X Landside Recreation and Parking Improvements

Figure 2-12 Proposed Landside Recreation and Parking Facilities (2 of 3)[11]



[11] Note that this figure does not depict parking spots for Electrical Vehicle (EV) charging.

Figure 2-13 Landside Recreation and Parking Facilities (3 of 3)[12]



[12] Note that this figure does not depict parking spots for Electrical Vehicle (EV) charging.

As a potential option, the Project may install a solar panel system over the Seawall Drive Parking Lot. For the purposes of this EIR, the installation of this overhead solar panel system is considered in the analysis where there could be environmental impacts from its installation. Because the solar panels may not be constructed, however, they are not considered operational when considering reductions in greenhouse gas emissions. If constructed, the parking lot solar panel system would be designed to support ferry vessel charging infrastructure. The system would consist of above-ground solar panels mounted on a canopy structure, providing shade coverage over designated parking areas. The canopy would range from 14 feet to 20 feet and would be supported by vertical steel posts approximately 16-feet in height. These posts would require excavation to depths of approximately 12 feet below grade to accommodate structural foundations. The solar panel system would include an associated battery energy storage system (BESS). The BESS equipment footprint is estimated to be approximately 20 feet wide by 10 feet tall by 8 feet wide, with an additional 10 feet of clearance on all sides, and would be located within the parking lot footprint.

Proposed Shoreline Repair

The proposed project includes repairing a stretch of the shoreline that is actively eroding, in the form of rock rip rap slope protection. This stretch of shoreline measures approximately 300 feet in length and is located on the eastern side Seawall Peninsula, just north of the 199 Seawall Drive structure. Shoreline revement shall be restored to match the surrounding shoreline and will include a minimim of geotextile/geogrid fabric, bedding layer, and riprap.

2.5.3 Proposed Wayfinding Signage, Lighting, and Landscaping

Proposed Wayfinding Signage

Wayfinding signage would be installed at various points along University Ave, Marina Boulevard, and Seawall Drive & Parking Lot. In addition, wayfinding signage would also be installed in a small portion of Shorebird Park, as shown in Figure 2-2, and within existing parking lots at the Waterfront. The purpose of this signage would be to direct visitors to the new pier, ferry vessels, and Seawall Drive parking lot as well as other recreational locations throughout the Berkeley Waterfront. These wayfinding signs may be lighted at night. Interpretive/educational signage regarding the history of the Berkeley Waterfront and notable environmental or geographic landmarks would be installed at locations along the Pier, Breakwater, and/or the new Bay Trail Extension. These interpretive/educational signs would not be lighted at night.

Proposed Lighting

Lighting already exists on the closed pier (28 lights spaced approximately 110 feet apart from each other on the north side of the closed pier), as well as the existing Seawall Drive parking lot (eight lights in parking islands). The proposed project would remove the existing lighting from the pier and the parking lot during construction of the proposed project.

New lighting is proposed for University Avenue and the Plaza, parking lot, pier, and ferry terminal, and additional lighting poles would be provided for the proposed Bay Trail Extension along Seawall Drive. LED lighting would be installed for the pier/breakwater, gangway walkway, and railings. Down-cast LED lights would be placed approximately every 50-feet along the Pier and Breakwater on 16-foot tall poles. The pier canopy structure would be fitted with LED linear downlights attached to the roof and wall sconces attached to the columns. Stainless steel guardrails on the pier would contain LED handrail point lighting aimed at the deck, which would also to be used for emergency

egress lighting. A solar-powered marine navigational signal lights and emergency LED path of egress lighting would be installed on the ferry float system and the central charging inverter.

All Project lighting would be designed in compliance with Illuminating Engineering Society recommendation[13] and DarkSky Policy[14] glare mitigation requirements. As such, full cut-off photocell fixtures with side shields and visors would be used for roadway and street lighting. The ferry terminal photocell lighting fixtures would be dimmable and controlled by a timer. The Pier, plaza, and parking lot would include a bi-level lighting system comprised of full cut-off photocell fixtures equipped with shields, guards to the seaside, and controlled by a timer.

Proposed Landscaping

The proposed project would require the removal of vegetation, such as shrubs and trees from the Seawall Drive eastern berm and the eastern parking lot to accommodate the new Bay Trail Extension. Vegetation and trees would also be removed in the vicinity of the plaza and in the median at the intersection of University Avenue and Seawall Drive. In total, approximately 40 trees would be removed for the proposed project, the majority of which are in poor health and include species such as Monterey Cypress, Monterey Pine, Italian Stone Pine, Japanese Black Pine, Soapwood, Blackwood Acacia, Coast Reedwood, Cataline Ironwood, and New Zealand Christmas Tree.

The proposed project would include new vegetated stormwater treatment areas, trees, and shrubs in the public plaza, on Seawall Drive and University Avenue island, and in the Seawall Drive East Parking lot. New trees to be planted would be 24-inch box trees and would include the following trees: California Buckeye, Monterey Cypress, Primrose tree, Drooping Melaleuca, and Torrey Pine. As part of the proposed project, between 50 and 70 trees would be planted.

2.5.4 Proposed Utility Connections and Extensions

Electrical Distribution

The proposed project would include electrical infrastructure to provide the power necessary to charge ferry vessels, as well as for site lighting, EV charging, and other uses including the restroom, adjustable ramp lift system, electronic key gate systems, Clipper Card readers, cameras, and electrical outlets for crew working on the float deck.

Pacific Gas and Electric (PG&E) has identified that a 12kV duct bank would be required to provide electricity for the proposed project.[15] Permitting, development, and construction of the 12kV duct bank would be the responsibility of PG&E, which has its own process for evaluating service changes as part of its programming.[16] Nonetheless, because this duct bank would connect to infrastructure associated with the proposed project, this 12kV duct bank is included in the proposed project description and analyzed throughout the EIR. The 12kV duct bank would be installed underground, between the portion of Frontage Road, northeast of the intersection of University Avenue and Frontage Road; and near the intersection of University Avenue and Seawall Drive (see Figure 2-2). At the eastern end of the project footprint, the electrical conduit would connect to an existing

[13] Illuminating Engineering Society. 2025. The IES Lighting Library Standards Collection. Available: https://ies.org/standards/lighting-library/ (accessed December 2025).
[14] DarkSky International. 2025. DarkSky Approved Luminaires. Available: https://darksky.org/app/uploads/2025/04/DarkSky-Luminaires-program-packet-V3-2025-3.pdf (accessed December 2025).
[15] PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.
[16] PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.

underground conduit. Approximately 1,200 feet of new cable would be installed within the existing conduit; however, no trenching would be required. In addition, approximately 2,000 feet of new overhead wires would be installed on existing poles east of Highway 80; however, no trenching or new electrical poles would be required.[17] Given that there would be no trenching for the installation of wires within existing conduits and overhead poles, and that installation of these lines would occur within existing infrastructure, no physical impacts on the environment are anticipated from these activities. Therefore, the areas associated with adding wires within existing conduits and overhead lines is not included in the project footprint and is not discussed further in this EIR.

Near the plaza, the 12kV line will be connected to a new PG&E transformer (approximately 8 feet wide, 8 feet deep, 2 feet and 8 inches tall) and a main switchboard (11 feet and 3 inches wide, 4 feet and 2 inches deep, and 7 feet and 6 inches tall).[18] The site would be served by two separate underground electrical services. One 1600 amperes (A) main service switchboard will provide 120/208V power to two separately metered 800A switchboards for the low voltage needs on the pier and landside facilities, such as lighting, card readers, electronic signage, and EV charging. Another 600A main service switchboard will provide dedicated 12kV power to the ferry vessel chargers.

Electrical conduit lines for the pier would be located beneath the pier structure and would be suitable for marine-grade environments. All conduits near water would be PVC Coated Galvanized Rigid Steel or approved equivalent.

For information about the source of electricity, please refer to Section 2.7.2, *Energy Source and Consumption* below.

Stormwater

The proposed drainage improvements include construction of new bioretention areas and permeable pavers/parking with perforated underdrains. The underdrains will discharge into the bioretention areas, which will have overflow points connecting to the existing storm drain outfalls into the Bay.[19]

For the renovated Seawall Drive Eastern Parking Lot and in the parking strip west of Seawall Drive, the proposed project would include the installation of permeable parking (such as stabilized gravel or permeable pavers) for all non-ADA parking stalls. Stabilized gravel consists of a High-Density Polyethylene grid (or other permeable surface) that is filled with gravel and placed on a layer of 3-feet deep drain rock that would serve as a reservoir for stormwater runoff. In addition, the proposed project would include the installation of bioretention and other stormwater treatment planting areas along University Avenue, near the plaza and in the Seawall Drive parking lot.

Water

There is an existing 8-inch, high pressure East Bay Municipal Utility District water main located under Seawall Drive. At the proposed plaza, the project would include a 2-inch domestic water supply connection to this water main. The proposed domestic water pipe would be mounted against the underside of the pier structure to serve the pier, using stainless steel seismically rated pipe clamps. The proposed project would provide water connections for a fish cleaning station at the

[17] PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.
[18] A switchboard is a centralized panel that distributes electrical power to various circuits and includes protective and control devices
[19] COWI. 2026. Draft 60% Hydrologic and Hydraulic Technical Report. Berkeley Water Transportation Pier Ferry Project. January.

pier, hose bibs along the pier and at the ferry vessel landing floats for deck cleaning, and the restroom and drinking fountain at the public plaza.

The proposed project would also include a new 6-inch, dedicated fire water main line and new fire hydrant. Like the domestic water pipe, the fire water main line would be mounted against the underside of the pier structure. The proposed project would include fire risers and connections on the pier, located at maximum spaced intervals of 300 feet and 150 feet from structure dead end in accordance with National Fire Protection Association 307 part 7.1, as well as one fire hose cabinet for each ferry vessel ramp and float.

Wastewater

An existing 8-inch City of Berkeley sewer main is located under Seawall Drive near the project site. A new underground 4-inch sewer pipe would connect the proposed restroom at the public plaza with the existing sewer main on Seawall Drive.

Telecommunication Facilities

The proposed project would include connections to existing telecommunication lines located on the project site, for infrastructure associated with ferry vessel operation and vessel charging, as well as Clipper Card readers, security cameras, and an emergency call box.

Solid Waste

Trash cans would be placed throughout the project site, including on the pier, public plaza, and renovated parking areas. Trash bins would be the size of standard public trash bins, which are typically 30 to 50 gallons. Trash bin service would occur as needed.

2.6 Construction Details

2.6.1 Construction Activities and Equipment

Landside

The following discussion applies to the landside improvements for the proposed project, including the public plaza, the improvements on University Avenue and Seawall Drive, the renovated parking lot, the new Bay Trail Extension, and all associated amenities and utilities. Construction of the landside components would involve the following process: demolition; site preparation; geotechnical solutions, such as deep soil mixing and/or retaining walls at the proposed plaza; grading; construction of proposed project components; shoreline revetment, paving; landscaping, lighting, and amenities.

Equipment

The following equipment is expected to be used during construction of the landside components of the proposed project:

- Aerial Lifts
- Backhoes
- Bore/Drill Rigs
- Cement and Mortar Mixers
- Concrete/Industrial Saws
- Compactors
- Compressors
- Cranes
- Crushing/Processing Equipment
- Dozers
- Excavators
- Generators
- Graders
- Loaders, Rubber Tired
- Pavers
- Pressure Washers
- Rollers
- Rough Terrain Forklifts
- Signal Boards
- Skid Steer Loaders
- Surfacing Equipment
- Sweepers/Scrubbers
- Trenchers
- Welders
- Water Trucks

Staging

Staging for construction equipment would primarily be located within the existing closed Seawall Drive East parking lot. The Skates/N Lot and M Lot may also be used for staging.

Waterside

The following discussion applies to the improvements over the water for the proposed project, including the new pier, breakwater, and associated amenities for ferry vessels. Construction of the waterside components would involve the following process: demolition; dredging; pile installation; installation of deck, float, and gangway, and amenities.

Equipment

The following equipment is expected to be used during construction of the waterside components of the proposed project:

- Aerial Lifts
- Concrete Truck
- Concrete/Industrial Saws
- Compressors
- Cranes
- Crushing/Processing Equipment
- Forklifts
- Generators
- Pressure Washers
- Pumps
- Rough Terrain Forklifts
- Skid Steer Loaders
- Welders
- Barge Crane
- Excavator Barge
- Flat Deck Barges
- Tugboats
- Crew Boats
- Skiff
- Vibratory Hammer
- Impact Hammer
- Dump Scow

Piles

Demolition of the closed pier is anticipated to be conducted using a crane positioned on a floating crane barge and supporting tugboats, material barges, and various smaller support vessels. Demolition of the closed pier would involve the removal of the existing concrete decking followed by the removal of existing 20-inch octagonal piles. The 20-inch piles would be removed using either

a dead pull method or the use of a vibratory hammer. If full removal is not possible, the 20-inch pipe piles may be cut at the mudline.

The landside retaining wall would be a mechanically stabilized earth (MSE) with a pre-case concrete panel face. Following the completion of the shoreline retaining wall and landside concrete abutment, the new pier would be constructed from the shoreline heading westward likely using a combination of a floating crane barge and shore-based cranes operating from the progressive extension of the newly constructed concrete abutment and pier. The 1,080-foot pier would be constructed using 24-inch octagonal precast concrete piles (24-inch concrete piles). Two 24-inch concrete piles would be installed approximately every 25 feet using a combination of jetting and impact pile driving. At the landside interface approximately 2 steel piles will be driven through the existing rock dike using a crane and a combination of vibratory and impact hammers. The construction of the pier would progress westward to include construction of the landing floats using 24-inch concrete vertical piles and eventually construction of loading ramps, and adjacent donut fender piles using 36-inch steel pipe piles as support guide piles. The 36-inch steel pipe piles anchoring the UCFs and donut fenders would be installed using a combination of vibratory and impact pile driving hammers. To complete the project and to help protect the ferry boarding areas and reduce wave energy, a concrete sheet pile breakwater perpendicular to the new pier would be constructed using 24-inch concrete batter piles and interlocking 48-inch x 14-inch prestressed concrete sheet piles (sheet piles) using a combination of jetting and impact pile driving hammers for the 24-inch concrete batter piles and sheet piles. Table 2-1 provides a summary of the kinds of piles and the number of piles that are proposed.

Table 2-1 Summary of Proposed Piles[20]

Location	Pile Type	Number of Piles
Landside/Shoreline Retaining Wall	24-inch Steel Pipe Pile	46
UCF Guide and Donut Piles	36-inch Steel Pipe Pile	18
Pier, Landing Platform, and Breakwater	24-inch Octagonal Prestressed Concrete Pile	227
Breakwater	48-inch x 14-inch Concrete Sheet Pile	125

Construction Materials and Demolition/Dredging Debris

The following volumes of materials and demolition/dredging debris were developed based on the 30 percent Project design and include a contingency, which means that these are conservative (i.e., high estimate) numbers.[21]

Construction Materials

Construction of the project would require bringing materials to the project site via trucks and barge as follows:

- 12,500 cubic yards of import fill/crushed rock
- 4,000 cubic yards of asphalt
- 6,000 cubic yards of concrete (3,600 cubic yards for landside and pier elements; 2,400 cubic yards of piles via barge).

[20] The number of piles presented in Table 2-1 is based on the current design of the Project and may be reduced in the future. The number of piles in Table 2-1 is a conservative estimate. For example, the retaining wall may be MSE and would not require the number of piles identified.
[21] COWI. 2025. Berkeley Water Transportation Summary of Quantities. July 11.

Disposal of Demolition Debris and Soils

Construction of the project would also require the disposal of demolition debris and soils generated by the project via trucks, as follows:

- 10,000 cubic yards of export fill
- 4,500 cubic yards of asphalt debris
- 500 cubic yards of concrete debris

In addition, removal of the pier would also generate demolition debris in the form of the concrete decking and piles, as well as the timber piles. The volume of demolition debris that would be generated by the waterside components of the project and that would require disposal via barge (to Pier 96 in San Francisco for sorting), followed via truck for disposal include the following:

- 2,000 cubic yards of concrete demolition debris
- 1,000 cubic yards of timber demolition debris

Dredging and Debris Disposal

Dredging is the process of removing sediment from the bottom of waterbodies to make waterways deeper for boats. The following specifications represent the maximum extent of potential dredging; however, further design may decrease the proposed dredging footprint and/or volume. Nonetheless, for the purposes of environmental analysis, this Environmental Impact Report uses these conservative assumptions.

As part of the proposed project, dredging would be conducted north of the closed pier. Dredging would be needed along the existing 100-foot wide United States Army Corps of Engineers (USACE)-designated federal navigation channel that parallels the closed pier and which future ferry vessels would use to travel to and from the pier. Refer to Figure 2-2 for the location of dredging. In addition, dredging would be needed for the turning basin, which would allow for ferry vessels to turn and dock at the two ferry boarding floats. Dredging would be done to a maximum depth of minus 12.51 feet City of Berkeley mean lower low water (MLLW)[22], which is equal to -12 feet National Oceanic and Atmospheric Administration (NOAA) MLLW. A maximum total of 400,000 cubic yards of dredged materials would be generated and would require disposal.

Dredged materials and demolition debris would all be transported via barge that have a capacity of between 3,000 and 6,000 cubic yards. The location for disposal of dredged materials would depend on the sampling results of the dredged materials, as well as permitting requirements. However, based on the recently completed Berkeley Marina Dredging Project of 2024 to 2025, it is expected that disposal would occur at Montezuma Wetland Restoration Project (Beneficial Reuse), Alcatraz Disposal Site, or another disposal site in the San Francisco Bay.

2.6.2 Construction Schedule

Construction for the proposed project would primarily occur during the day; however, nighttime work may be required for pile driving. Based on the number of piles per day that are proposed, the number of nights for nighttime work is not expected to exceed 50 nights. When work occurs during the day, construction would be limited to 7:00 A.M and 7:00 P.M. on weekdays and 9:00 A.M. and 8:00 P.M. on weekends and holidays, in compliance with the City of Berkeley's Municipal Code.

[22] The 12.51 feet measurement uses City of Berkeley Datum.

Completion of construction of the proposed project, and initiating ferry service is proposed for the end of 2028. The overall phasing of construction has not yet been determined and would be dependent on obtaining funds to construct the project, as well as completing permitting, final design, and bidding for construction. The Project may be completed in a single or multiple phases depending on these factors. The City anticipates the proposed project could be completed in the following separate phases:

- University Avenue, including all proposed amenities along University Avenue.
- Seawall Drive rehabilitation, Seawall Drive Parking Lot construction, and Bay Trail Extension
- Construction of pier, plaza, and associated infrastructure, including one gangway and one boarding float
- Construction of second gangway and second float
- Construction of Solar Panels in the Seawall Drive parking lot

Table 2-2 identifies the duration for construction of the landside activities and Table 2-3 identifies the duration for construction of the waterside activities. The construction durations presented are not sequential; construction could occur simultaneously at several locations. The durations noted below are for actual construction activity. These facilities would require permitting and contractor selection prior to construction. As a result, the total duration could be longer than the construction durations noted in the tables.

Construction is expected to begin as early as April 2027.

Table 2-2 Summary of Duration of Landside Activities

Construction Phase	University Avenue Duration (Workdays)	Seawall Drive and Parking Lot Duration (Workdays)	Public Plaza Duration (Workdays)	Shoreline Revetment (Workdays)
Demolition	20	30	10	5
Site Preparation	10	14	5	5
Grading	10	14	15	5
Restroom Construction	0	15	0	0
Utilities	40	60	10	0
Asphalt Paving, Curbs, and Plaza Pavers	20	30	20	0
Deep Soil Mixing	0	0	15	0
Retaining Wall	0	0	15	0
Landscaping	10	15	15	0
Amenities (Benches, Signs, Lights, Handrails, Fish Station, Architectural sculpture or signs, Bus Stop etc.)	10	15	25	0
Total	**120**	**193**	**130**	**15**

Table 2-3 Summary of Duration of Waterside Activities

Construction Phase	Pier, Breakwater, and Float Duration (Workdays)	Second Float Duration (Workdays)
Float Construction	230	230
Demolition	50	0
Dredging	83	0
Pile Installation	49	10
Deck Construction	120	10
Amenities (Electrical, Utilities, Canopy, Gangway, Float, Gates, Handrails, etc.)	95	20
Total	**400**	**270**

2.7 Operational Details

2.7.1 Operational Scenario and Ridership[23]

A conceptual plan for ferry service has been provided in the 2022 San Francisco Bay Area Water Emergency Transportation Authority (WETA) Berkeley Ferry Service Business Plan, Version 1.0.[24] This is a living document and updates to the Business Plan and contemplated ferry service will be captured in future updates. The following ferry operation is proposed in the current Berkeley Ferry Service Business Plan, Version 1.0:

- WETA would operate two 250-passenger electric zero-emission vessels on the weekday route between Berkeley and San Francisco.
- Weekend service would operate a single 250-passenger vessel to Larkspur and a single 250-passenger vessel to San Francisco.
- At least three round-trip services would be completed during peak hours for the Berkeley/San Francisco weekday service, pursuant to WETA Board-adopted standards.
- The Berkeley-San Francisco service would travel 6.7 miles between the Berkeley Ferry Terminal and the San Francisco Ferry Terminal. The total one-way travel time would be 25 minutes, door-to-door. Weekday peak-direction headways[25] would be approximately 35 minutes. Weekend headways would be 70 to 110 minutes, depending on the time of day.
- The Berkeley-Larkspur service would travel 11.8 miles between the terminal at the Berkeley Marina and the Larkspur Ferry Terminal. The one-way travel time would be 35 minutes, door-to-door. Weekend headways would be 90 to 150 minutes, depending on the time of day.
- Special event service may operate between Berkeley and San Francisco or Mission Bay (e.g., for events at the Chase Center or Oracle Park or future events at the Berkeley Marina), as well as between Larkspur and Berkeley.

[23] As described in Chapter 1, *Introduction* of this EIR, operation of ferry vessels serving Berkeley has been analyzed by WETA in the Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR in 2003. WETA's Program EIR has been incorporated by reference.
[24] WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17, 2022. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf (accessed August 2024).
[25] A headway refers to the time interval between successive ferry departures.

The projected ridership for the ferry service in the first year and fifteenth year of service is provided in Table 2-4 below. The information presented in Table 2-4 shows total trips. For example, in the weekday scenario to San Francisco in the first year of service, a total of 1,910 trips is estimated. Assuming that an individual rider is taking a round trip, then the 1,910 total trips would represent 955[26] unique riders taking a round trip between Berkeley and San Francisco. Per WETA standard operating procedure, ferry vessels would reduce speed to 0 to 8 knots when approaching the Berkeley pier boarding float.[27]

Table 2-4 Daily Ridership Projections (trips)

Destination	Weekday	Weekend Day	Special Events
Projected First Year of Service			
San Francisco	1,910	1,367	209
Mission Bay[1]	2,106	1,503	209
Larkspur[2]	–	515	104
Estimated Fifteenth Year of Service[1]			
San Francisco	2,110	1,510	230
Mission Bay[1]	2,320	1,660	230
Larkspur[2]	–	580	115

[1] Total trips (including stop at San Francisco Ferry Terminal) (i.e., ridership estimate is additive of Berkeley to San Francisco passengers)

[2] Weekend service only

Source: WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17

2.7.2 Energy Source and Consumption

The project site receives electricity from a community-governed power supplier, Ava Community Energy (Ava), formerly East Bay Community Energy, delivered by PG&E. Ava's service area covers approximately 849 square miles, serving all of Alameda County and the cities of Tracy, Stockton, and Lathrop.[28] As of 2023, Ava's power mix is comprised of 54.8 percent eligible renewable energy and is on track to be 100 percent carbon free by 2030.[29]

Power would be delivered by PG&E, which acquires energy from power plants owned by Ava Community Energy. Electricity would be delivered via PG&E electrical conduits from the nearest PG&E substation, El Cerrito G, located approximately 5 miles northeast of the project site in Contra Costa. It is anticipated that the project would require approximately 4 megawatts of electricity to support operational electricity needs. The project could be served from existing capacity at El Cerrito G. To the extent that trenching and placement of new conduits for power or other infrastructure upgrades are required at the project site; those improvements are assessed herein. PG&E has its own process for evaluating service changes as part of its programming and planning for the service area.[30] Except as specifically included herein (see Section 2.5.4), PG&E upgrades would be subject to their own environmental review process as they arise.

[26] 955 riders is calculated as 1,910 total trips divided by 2 trips by one person (to San Francisco and back to Berkeley).
[27] 8 knots is equal to approximately 9.2 miles per hour.
[28] Ava Community Energy. 2025. What We Do. Available: https://avaenergy.org/what-we-do/ (accessed July 2025).
[29] Ava Community Energy. 2025. How it Works. Available: https://avaenergy.org/your-energy-options/how-it-works/ (accessed August 2025).
[30] PG&E. 2025. Preliminary Engineering Study Report, City of Berkeley, 100 Seawall Dr, Berkeley, CA. June.

2.7.3 Infrastructure and Ferry Vessels Maintenance

The City and WETA would divide the operation and maintenance responsibilities in a separate future agreement for the leasing and operation phase of the project for the following elements:

- Restroom, trash, landscaping, fish cleaning station, public pier entrance gate, lighting, and recreation pier maintenance (City)
- Ferry berth gates, floats, gangways, electrical, and all other ferry-related infrastructure, as necessary (WETA)
- Roads, Bay Trail, plaza, landscaping, resurfacing, and other maintenance (City)

In addition, ferry vessels would occasionally layover at the ferry landing. However, any maintenance on ferry vessels would occur at WETA's Central Bay Operations and Maintenance Facility at 670 West Hornet Avenue in Alameda, where WETA currently maintains its vessels.[31] Implementation of this project would not change the maintenance practices currently in place at WETA's Central Bay Operations and Maintenance Facility.

2.7.4 Programming and Plaza Operation

Future programming at the public plaza has not yet been determined and would depend on input from the public, as well as any regulatory agencies that have jurisdiction over the project site, such as the San Francisco Bay Conservation and Development Commission (BCDC). For the purposes of environmental analysis in this Environmental Impact Report, the City has identified potential programming options that could occur in the public plaza. Programming may include small mobile vendors, such as coffee carts or food trucks. The City may also plan special events, such as small concerts, fishing derbies, and semi-regular pop-up style events such as a Farmer's or Craft Market. Amplified sound would only occur in the public plaza for special events. The City estimates that special events would be limited to approximately 12 days per year, between the hours of 10:00 A.M. and 8:00 P.M. The public plaza can also serve as a meeting place for formal or informal group recreation activities like running, biking, walking, or nature viewing groups.

2.8 Emergency Operation Options[32]

WETA has a legislative mandate to operate and coordinate emergency water transit when regional transportation systems are disrupted due to disaster or other events.[33] In compliance with its Emergency Response Plan, WETA would manage emergency water transportation operation after a catastrophic incident (such as an earthquake) that would result in severe damage to normal transportation systems.[34] The Emergency Response Plan would likely be implemented after a catastrophic incident that would result in a Governor's Proclamation of Emergency and an

[31] Because the proposed project would not result in any changes to operation at this Maintenance Facility, and would not require any changes to infrastructure at this facility, there would be no physical impact on the environment from ongoing maintenance associated with ferry vessels that would serve the proposed project. Therefore, maintenance at this facility is not discussed further in this EIR.
[32] CEQA Guidelines 15269(c) states that "specific actions necessary to prevent or mitigate an emergency" are statutorily exempt from CEQA. Because the emergency operations that could occur in the future are statutorily exempt from CEQA, they are not discussed further in the environmental analysis of this EIR.
[33] WETA. 2024. Emergency Response. Available: https://sanfranciscobayferry.com/emergency-response/ (accessed September 2025)
[34] WETA. 2024. Emergency Response. Available: https://sanfranciscobayferry.com/emergency-response/ (accessed September 2025)

accompanying Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707) (Stafford Act) Disaster Declaration that would require activation of the State Operations Center.[35]

Emergency operation could include the emergency movement of survivors, first responders and disaster service workers following a major disaster. In an emergency situation, WETA would manage and operate water transportation routes that provide service between ferry terminals as part of a larger transportation system that connects with care and shelter sites or base camps. Movement of first responders and disaster service workers into incident areas to provide life safety services is likely to require shuttle service as many of these individuals would stage out of base camps away from incident locations.

In the event of an emergency, when electrical power is disrupted, WETA envisions using a power generation barge, which would be brought to the UCF and electrically connected to maintain vessel charging capabilities.

2.9 Discretionary Actions and Required Approvals

Implementation of the proposed project would require the following approvals:

- **City Approvals**
  - Demolition Permit;
  - Building/Grading/Encroachment Permit;
  - Use Permit; and
  - Additional memorandum of understanding(s) and agreements with WETA regarding Pier/Ferry construction, operations and maintenance.
- **Responsible Agency Approvals**
  - United States Army Corps of Engineers Individual Permit pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (with U.S. Coast Guard coordination);
  - California Department of Fish and Wildlife Endangered Species Act Incidental Take Permit;
  - National Marine Fisheries Service Incidental Harassment Authorization Permit (if necessary);
  - National Marine Fisheries Endangered Species Act Section 7 Consultation;
  - Water Quality Certification (Section 401) from the San Francisco Regional Water Quality Control Board;
  - State Water Resource Control Board General construction activity storm water permit under Section 402 National Pollutant Discharge Elimination System; and
  - San Francisco Bay Conservation and Development Commission McAteer-Petris Act Major Permit or Major Permit Amendment.

[35] WETA. 2016. San Francisco Bay Area Water Emergency Transportation Authority Emergency Response Plan. March. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240910102156/WETAEmergencyResponsePlan030316.pdf (accessed February 2026).

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3 Environmental Impact Analysis

In compliance with California Environmental Quality Act (CEQA) and CEQA Guidelines Section 15125 and 15126, this chapter sets forth the physical and regulatory environmental setting and addresses environmental impacts of the proposed project with respect to the environmental topics listed below. The discussions of the environmental setting in each subsequent section of this Environmental Impact Report (EIR) describe the existing physical environmental conditions, or baseline conditions, at the project site and vicinity. The baseline used for the analysis of environmental impacts under CEQA reflects the conditions present at the time the EIR Notice of Preparation (NOP) was published on April 18, 2025. The potential impacts of the proposed project are compared against the existing baseline conditions for each environmental topic.

Environmental Topics Addressed in this EIR

The following environmental topics are assessed in this chapter in accordance with CEQA and CEQA Guidelines, including CEQA Guidelines Appendix G:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

CEQA Guidelines Section 15128 requires that an EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and therefore were not discussed in detail in the EIR." The following environmental topics from CEQA Guidelines Appendix G are not discussed in detail in this EIR, because no significant impacts would occur as a result of construction or operation of the proposed project. Therefore, these topics are addressed in Section 3.15, *Effects Found Not to Be Significant*, following the aforementioned topical sections.

- Agriculture and Forestry Resources
- Mineral Resources
- Population and Housing
- Public Services
- Wildfire

EIR Baseline

Under CEQA, the impacts of a proposed project must be evaluated by comparing expected environmental impacts as a result of the project to conditions at a point in time referred to as baseline conditions. State CEQA Guidelines Section 15125 states that the existing physical conditions in the vicinity of the project will normally constitute the baseline physical conditions by which the lead agency determines whether an impact is significant. Accordingly, an EIR should describe physical environmental conditions of the project site and vicinity as they exist at the time that the EIR NOP is published, or if no NOP is published, then at the time environmental analysis is

commenced, from both a local and regional perspective. This environmental setting constitutes the baseline physical environmental conditions against which a lead agency determines whether a proposed project's impact is significant. Therefore, because the EIR NOP was published on April 18, 2025, this is the point in time that is used in this EIR to determine the baseline conditions. This baseline includes the closure of the existing pier, the closure of the HS Lordship restaurant located at 199 Seawall Drive, and intermittent closure of the Seawall Drive parking lot. This baseline reflects the existing conditions at the time that the EIR NOP was published.

As part of the scoping process, the City received comments from the public requesting the use of a different baseline (specifically one that pre-dates the closure of the pier, the HS Lordship's Restaurant and the intermittent closure of the Seawall Drive parking lot) due to concerns that an analysis based on the actual baseline (existing conditions as of April 18, 2025) would not accurately reflect potential impacts on parking. The pier has been closed since 2015, the HS Lordship restaurant has been closed since 2018, and the Seawall Drive parking lot has been closed intermittently since 2018. These facilities being open is not representative of the EIR NOP baseline conditions. Lack of parking is not considered an environmental impact under CEQA. Given the guidance from CEQA Guidelines Section 15125 and that the main concern raised by the public requesting the use of a different baseline is for a non-CEQA topic, a baseline that differs from the existing condition at the time of the NOP publication is not used for this analysis.

Format of the Environmental Analysis

This EIR provides analyses of impacts of those environmental topics for which the proposed project could result in potentially significant effects. "Significant effect" is defined by CEQA Guidelines Section 15382 as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

Sections 3.1 through 3.14 discuss the environmental impacts that may result due to construction and/or operation of the proposed project. The format of the environmental analysis for each environmental topic in Sections 3.1 through 3.14 includes the subsections summarized below.

Introduction

This subsection summarizes what will be discussed in the respective environmental topic section and states what informational documents are used as the basis for the section.

Environmental Setting

In accordance with CEQA Guidelines Section 15125(a), this subsection describes the existing, baseline physical environmental conditions of the project site and vicinity (e.g., existing land uses, transportation conditions, noise environment) with respect to each resource topic at the time the NOP was issued. Conditions are described in sufficient detail to allow a general understanding of the environmental impacts associated with construction and operation of the proposed project in order to determine whether a significant environmental impact would occur (CEQA Guidelines Section 15126.2[a]). Extraneous setting information that does not shed light on the impact analysis is not included in this EIR pursuant to CEQA Guidelines Section 15125[a]).

Regulatory Framework

This subsection describes the relevant federal, California, regional, and local regulatory requirements that are directly applicable to the environmental topic being analyzed. Where the project site and its vicinity fall within the jurisdiction of federal, State, and local regulatory agencies, the proposed project would be subject to the environmental-related laws, rules, regulations, and policies of those agencies. These regulations are intended to reduce adverse effects on sensitive environmental resources and/or offer general guidance on the protection of such resources.

Impacts and Mitigation Measures

This subsection evaluates the potential for the proposed project to result in direct and indirect adverse impacts on the existing physical environment, with consideration of both construction and operation impacts. The significance criteria questions for environmental impacts are listed at the beginning of this subsection, followed by the discussion of the approach to the analysis (including consideration of EIR scoping comments received) and specific thresholds of significance that have been applied to evaluate the impacts of the proposed project, and finally by the discussion of environmental impacts (both construction and operational) and identified mitigation measures. Indirect impacts are discussed where they have the potential to occur.

Impacts are analyzed and the respective assessments and findings are provided, applying the following levels of significance:

- **No Impact.** A determination of No Impact is reached if no potential exists for impacts or if the environmental resource does not occur in the project site or the area of potential impacts.
- **Less Than Significant Impact.** This determination applies if the impact does not exceed the defined significance criteria or would be eliminated or reduced to a less than significant level through compliance with existing local, State, and federal laws and regulations. No mitigation is required for impacts determined to be less than significant.
- **Less Than Significant Impact with Mitigation.** This determination applies if the proposed project would result in a significant impact, exceeding the established significance criteria, but feasible mitigation is available that would reduce the impact to a less than significant level.
- **Significant and Unavoidable Impact.** This determination applies if the proposed project would result in an adverse impact that exceeds the established significance criteria, and no feasible mitigation is available to reduce the impact to a less than significant level. Therefore, the residual impact would be significant and unavoidable.

Impacts are defined in terms of their context and intensity. Context is related to the uniqueness of a resource; intensity refers to the severity of the impact. Where applicable, best management practices or improvement measures, or both, are incorporated into the proposed project to limit the potential for a significant impact. Where necessary, mitigation measures are identified for significant impacts to limit the degree or lower the magnitude of the impact; rectify the impact by repairing, rehabilitating, or restoring the affected environment; or compensate for the impact by replacing or providing substitute resources or environments. These impacts conclude with a finding of Less than Significant Impact with Mitigation. Where no mitigation measures are necessary, relevant impacts are concluded to be Less than Significant or to have No Impact.

As part of the impact analysis, mitigation measures are identified, where necessary and feasible, for impacts considered significant or potentially significant consistent with CEQA Guidelines Section 15126.4, which states that an EIR “shall describe feasible measures which could minimize significant

adverse impacts." CEQA requires that mitigation measures have an essential nexus and be roughly proportional to the significant impact identified in the EIR. The future project sponsors are required to implement all mitigation measures identified in the Final EIR, and the lead agency (in this case, the City of Berkeley) is responsible for overseeing implementation of such mitigation measures.

Impacts are numbered and shown in bold type. The corresponding mitigation measures, where identified, are numbered and indented, and follow the impact statements. Impacts and mitigation measures are numbered consecutively within each topic and include an abbreviated reference to the impact section (e.g., "LU" for Land Use and Planning). The following abbreviations are used for individual topics:

- Aesthetics (AES)
- Air Quality (AQ)
- Biological Resources (BIO)
- Cultural Resources (CR)
- Geology and Soils (GEO)
- Greenhouse Gas Emissions and Energy (GHG)
- Hazards and Hazardous Materials (HAZ)
- Hydrology and Water Quality (HYD)
- Land Use and Planning (LU)
- Noise (NOI)
- Recreation (REC)
- Transportation (TRA)
- Tribal Cultural Resources (TCR)
- Utilities and Service Systems (UTL)

Cumulative Impacts

This subsection evaluates the potential for the proposed project in conjunction with other identified cumulative projects to result in cumulative impacts. The projects identified in the *Cumulative Scenario Setting* subsection below, in conjunction with the proposed project, are considered the cumulative scenario for the analysis of cumulative impacts.

The goal of the cumulative impacts analysis is to determine whether the overall long-term impacts of all such projects would be cumulatively significant, and to determine whether the proposed project on its own would cause a "cumulatively considerable" incremental contribution to any such cumulatively significant impacts. To determine whether the overall long-term impacts of all such projects would be cumulatively significant, the analysis generally considers the following:

- The area in which impacts of the proposed project would be experienced;
- The impacts of the proposed project that are expected in the area;
- Other past, present, and reasonably foreseeable projects that have had or are expected to have impacts in the same area;
- The impacts or expected impacts of these other projects; and
- The overall impact that can be expected if the individual impacts from each project are allowed to accumulate.

"Cumulative impacts" refers to two or more individual impacts that, when considered together, are considerable, or that compound or increase other environmental impacts (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant impacts taking place over time. If the analysis determines that the potential exists for the proposed project, taken together with other past, present, and probable future projects, to result in a significant or adverse cumulative impact, the analysis then determines whether the proposed project's incremental contribution to any significant cumulative impact is itself significant (i.e., "cumulatively considerable"). The cumulative impact analysis for each individual resource topic is presented in each resource section of this chapter immediately after the description of the direct impacts and identified mitigation measures.

Pursuant to CEQA Guidelines Section 15130(a)(1), "As defined in Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR." Therefore, where the proposed project would have no impact in a particular resource area, the proposed project could not contribute to a cumulatively considerable impact, and cumulative impacts are not discussed further for that resource topic.

CEQA Guidelines Section 15130(b)(1)(A)-(B) states that a discussion of cumulative impacts can either include, "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or a summary of projections contained in an adopted local, regional, or Statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect…".

This EIR evaluates cumulative impacts using both approaches, depending on the environmental resource topic. For example, cumulative impacts related to water supply demand consider the projections from the East Bay Municipal Utility District's Urban Water Management Plan, to account for the overall cumulative water demand from the provider that would service the project. Please refer to each environmental topic, which identifies the approach used for the cumulative impact analysis therein.

Cumulative Scenario Setting

In determining the cumulative scenario setting, the City considered the geographic scope for each of the environmental resource topics considered in this EIR. The geographic scope for each environmental resource is included in Sections 3.1 through 3.14 of this EIR. The geographic scope varies by each environmental topic. For example, the geographic scope for criteria air pollutants is the entire San Francisco Bay Area Air Basin, whereas the geographic scope for hazardous materials is the immediate vicinity of the project. With a few exceptions, and as explained in Sections 3.1 through 3.14 of this EIR, the geographic scopes of the project are within the immediate vicinity or near the immediate vicinity of the project site. Where the geographic context is greater than the immediate vicinity of the project site, for example for air quality or greenhouse gas emissions, the cumulative impact analysis in this EIR describes how the regulatory thresholds account for cumulative impacts. For these reasons, the cumulative projects shown in Figure 3-1 and Table 3-1 represent the cumulative projects within the immediate vicinity or near the immediate vicinity of the project.

In determining the cumulative scenario setting, the City considered past, present, and probable future projects. Past projects include the existing buildings and infrastructure on and near the project site that have already been built. There are certain situations where past projects influence

the cumulative environmental impact analysis. For example, for toxic air contaminants, the cumulative air quality analysis considers past projects that have already been built and currently generate toxic air contaminants, in addition to the proposed project, pursuant to recommendations from the Bay Area Air District. Please refer to the Cumulative Impacts discussions at the end of Sections 3.1 through 3.14 of this EIR that describe which other cumulative projects would apply to the specific cumulative environmental topic and analysis.

Present projects include projects that are currently under construction, and these were included in Table 3-1. Reasonably foreseeable future projects are defined as those likely to occur during the same period of time as construction and operation of the project and that could contribute to the cumulative impact on a particular environmental resource. Reasonably foreseeable projects are future projects (including those currently proposed) that are likely or probable, rather than those that are merely possible. Generally, projects are reasonably foreseeable if they meet any one or more of the following conditions:

- The project is a foreseeable future phase of an existing project.
- Applications for project entitlements or construction are pending with a government agency (these projects may have been analyzed in a recent environmental document).
- The project is included in regional transportation plans; regional transportation improvement programs; local long-range transportation plans; local land use, general, and specific plans; or an agency's budget or capital improvement program.

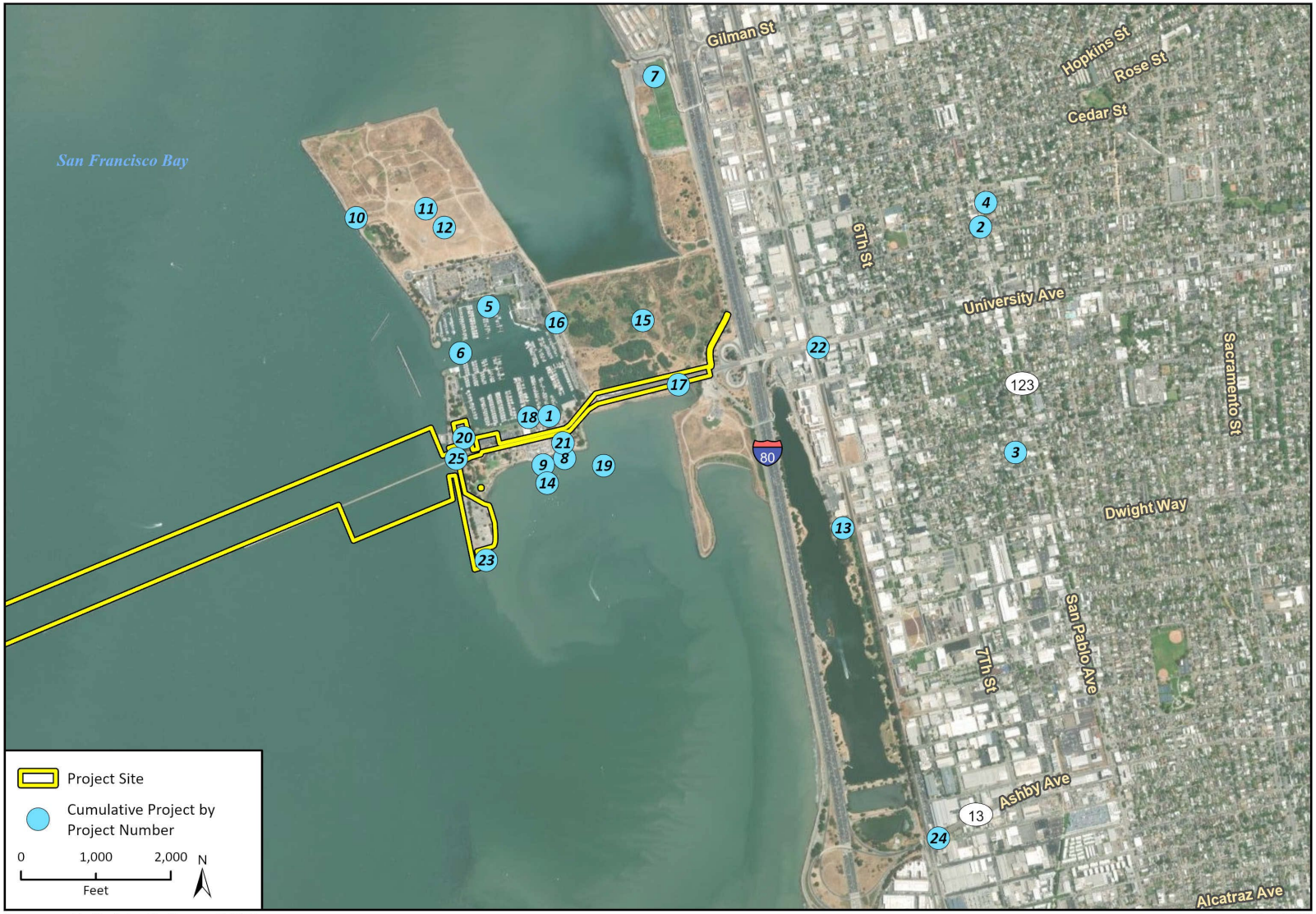
Table 3-1 lists relevant local present and reasonably foreseeable cumulative projects located in Berkeley that are considered in the Cumulative Impacts discussions at the end of Sections 3.1 through 3.14 of this EIR. The cumulative project locations are shown with their corresponding table numbers in Figure 3-1.

The first project listed in Table 3-1 is the Draft Waterfront Specific Plan. This Plan is still in Draft form, and a development scenario has not yet been identified. For the purpose of this cumulative analysis, the City has made some assumptions about the potential development of the Draft Waterfront Specific Plan. To provide a conservative cumulative impact analysis, the City has used the "Potential Maximum" Scenario, which is a theoretical future layout based on maximum heights, shoreline setbacks, and maximum building coverage allowed in the Draft Waterfront Specific Plan. This "Potential Maximum" Scenario is not a design or redevelopment recommendation, and any future development as part of the Draft Waterfront Specific Plan would depend on the Draft Waterfront Specific Plan process, as well as community feedback, City review, market viability, and financial considerations. For the purposes of this analysis, the "Potential Maximum" Scenario assumes the buildout of 1,215,000 non-residential square feet. This buildout is assumed to include both redeveloped and new: hotel & food establishments[1], maritime visitor services, commercial recreation, office uses, cultural uses/museum, and ferry terminal kiosk.[2] The reopening of a restaurant at 199 Seawall Drive (formerly HS Lordship Restaurant) is included in the "Potential Maximum" scenario and is therefore included in the cumulative analyses herein. Potential cumulative impacts from the "Potential Maximum" Scenario associated with the Draft Waterfront

[1] Note that one of the redeveloped food establishments assumed in this "Potential Maximum" Scenario is a new restaurant at the former HS Lordship site. Potential cumulative impacts from the new restaurant are discussed in Section 3.1, *Aesthetics*.
[2] Berkeley, City of. 2026. Berkeley Water Transportation Pier-Ferry Project – Draft Waterfront Specific Plan Assumptions for Cumulative Impact Analysis. February 9.

Specific Plan is analyzed for impacts related to Aesthetics, Air Quality, Noise, Greenhouse Gas Emissions and Transportation.

Figure 3-1 Present and Reasonably Foreseeable Cumulative Projects Locations



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23-15427 EPS
Fig X Berkeley Cumulative Projects

Table 3-1 Present and Reasonably Foreseeable Cumulative Projects List

Cumulative Project Number	Name	Jurisdiction	Land Uses	Cumulative Project Characteristics			
				Cumulative Project Use	Location	Status	Brief Description
Planning Projects							
1	City of Berkeley Draft Waterfront Specific Plan [a]	Berkeley	Waterfront/Marina	1,215,000 non-residential square feet	Berkeley Waterfront	Planning	Specific Plan that will designate areas for commercial redevelopment and recreation opportunities and provide design guidelines for future projects. See the *Cumulative Scenario Setting* subsection above for a full description of the assumptions made regarding the development associated with the Draft Waterfront Specific Plan. The re-opening of the restaurant at 199 Seawall Drive is included in the Draft Waterfront Specific Plan scope and thus included in the cumulative impacts analyses.
Development Projects							
2	1740 San Pablo Avenue [a]	Berkeley	Residential	54 residential units	1740 San Pablo Avenue	Design	54 affordable residential units.
3	2321-2323 Tenth Street [a]	Berkeley	Residential	8 residential units	2321-2323 Tenth Street	Design	8-unit property to be rehabilitated by Northern California Land Trust.
4	Berkeley Unified School District Workforce Housing Development [a]	Berkeley	Residential	120 residential units	1701 San Pablo Avenue	Design	110-120 affordable housing units for District educators.
Recreation and Marina Projects							
5	D & E Dock Replacement Project [a]	Berkeley	Waterfront/Marina	Docks	Berkeley Marina Basin	Under Construction	Replacement of docks, concrete piles, utilities, gangway, and gate structure. Installation of a concrete wall, slope protection, and landslide improvements.
6	Berkeley Marina Dredging Project [a]	Berkeley	Waterfront/Marina	Maintenance Dredging	Berkeley Marina Basin	Under Construction	Maintenance dredging at the marina entrance and shallow inner harbor areas.
7	Tom Bates Regional Sports Complex Restroom & Community Space [a]	Berkeley	Waterfront/Marina	Park facilities	400-408 Gilman Street	Design	Installation of a restroom, meeting room, storage area, one youth soccer field, and six pickle ball courts.
8	South Cove East Dock Pier Piling Repairs [a]	Berkeley	Waterfront/Marina	Docks	Easternmost public dock within the South Cove Sailing Basin	Design	Structural rehabilitation of deteriorated pier structure that leads to East Dock.
9	Replacement of South Cove Middle Dock ADA Gangway Float [a]	Berkeley	Waterfront/Marina	Docks	Connected to the middle public dock within the South Cove Sailing Basin	Design	Replacement of damaged ADA-compliant dock.
10	César E. Chávez Pathway Project [a]	Berkeley	Waterfront/Marina	Pedestrian facilities	Encircles the perimeter of César E. Chávez Park, along the 3-shoreline edges of César E. Chávez Park and along Spinnaker Way	Postponed pending soils testing over next 3 to 5 years [g]	Renovation of César E. Chávez Park Perimeter Trail, including replacement of existing asphalt pathway and upgrades to surrounding park amenities.
11	César E. Chávez Park Restroom Project [a]	Berkeley	Waterfront/Marina	Restroom	César E. Chávez Park	Design	Replace portable toilets with an ADA-compliant restroom with automatic-cleaning technology south of Spinnaker Way
12	César E. Chávez Master Plan [a]	Berkeley	Parks	Park Facilities	César E. Chávez Park	Postponed indefinitely until funding is secured.	Nature- and recreation-based conceptual vision for César E. Chávez Park to guide design that reflects equity and sustainable use.
13	Aquatic Park Dreamland Playground Improvements [a]	Berkeley	Parks	Park Facilities	100 Bolivar Drive	Planning	Upgrade playground, nearby picnic areas, fields, restrooms, and parking lot, install new bioretention basin.
14	South Cove Sailing Basin Seawall Study [a]	Berkeley	Infrastructure	Seawall	South of the Bay Trail Extension, in front of Cal Sailing and Cal Adventure Clubs	Planning	Study to repair deteriorating seawall.
15	Berkeley North Basin Project [b]	East Bay Regional Park District, Alameda County, Berkeley	Parks	Habitat	Schoolhouse Creek, North Basin Strip and Berkeley Meadow within McLaughlin Eastshore State Park	Planning	Improve habitat and develop public access facilities.
16	Berkeley Waterfront Marina Boulevard Shoreline Resiliency & Public Access Improvements [a]	Berkeley	Waterfront/Marina	Pedestrian Facilities	Eastern side of Marina Boulevard adjacent to the Berkeley Meadow at McLaughlin Eastshore State Park.	Planning	Trail enhancements and improved public access and climate/ecological resilience.

Cumulative Project Number	Name	Jurisdiction	Land Uses	Cumulative Project Characteristics			
				Cumulative Project Use	Location	Status	Brief Description
17	Berkeley Waterfront Bike Park Conceptual Design Project [a]	Berkeley	Park	Bike Facilities	Between University Avenue and the San Francisco Bay Trail, and between Frontage Road and Marina Boulevard	Planning	Develop a public-input driven recreational space for bike use.
18	K-Dock Restroom Renovation [a]	Berkeley	Waterfront/Marina	Restroom	Berkeley Marina	Out to Bid [h]	Enhance security, improve interior space with new energy and water efficient fixtures, align with latest ADA standards.
19	South Cove Sailing Basin Dredging Study [a]	Berkeley	Waterfront/Marina	Dredging	South side of Berkeley Marina encompassing entire area between former H.S. Lordships building and Brickyard Cove Park	Planning	Proposes public engagement to define dredging goals and needs of the area, conduct soil sampling and analysis to support regulatory compliance, and estimate cost of the work.
Infrastructure Projects							
20	N-Lot Parking Lot Improvements [c]	Berkeley	Parking	Parking	Berkeley Marina near Skates	Design	Parking lot improvements
21	South Cove West Parking Lot [a]	Berkeley	Parking	Parking	South side of University Ave at the Berkeley Waterfront by Cal Adventures Club	Construction (expected completion date is Summer 2026)	Renovated parking lot with new asphalt, storm water treatment system, and new safety elements.
22	Climate Action Plan [d]	Berkeley	Infrastructure	Mixed uses	Berkeley	Adopted	Strategic plan to improve sustainability in Berkeley through increased energy efficiency and renewable energy, improved active and public transportation, reduced waste and improved accessibility to locally produced food.
23	199 Seawall Structural Repair Project [e]	Berkeley	Waterfront/Marina	Improved structural integrity	199 Seawall Drive	Planning	Installation of new pilings to reinforce concrete on eastern side of the building, repairs to a failed beam support, and repairs to existing pilings.
24	Interstate 80/Ashby Avenue (SR-13) Interchange Improvements [f]	Alameda County Transportation Commission, Caltrans	Transportation Infrastructure	Transportation	I-80 and Ashby Avenue interchange	Design	Reconstruct the interchange to improve traffic flow, safety, and multimodal access, including a separate pedestrian and bicycle overcrossing connecting Shellmound Street to the Bay Trail.
25	Local Bus Service Frequency Upgrades | AC Transit | Systemwide [f]	Alameda County Transit	Infrastructure, Transportation	Enhanced transit access and frequency in high-demand corridors	Alameda; Routes 72/72M/72R and 51B	Implementation	Upgrades bus frequency to 5-10-minute peak headways on routes 72, 72M, 72R, and 51B, which serve key access points to the Berkeley Waterfront.

Sources:

[a] Berkeley, City of. 2025. Capital Projects. https://berkeleyca.gov/your-government/our-work/capital-projects. (Accessed June 2025); Berkeley, City of. 2024. Status of the Southern Peninsula and the building at 199 Seawall Drive in the Berkeley Waterfront. November 18. https://berkeleyca.gov/sites/default/files/documents/2024-11-18%20%20Status%20of%20the%20Southern%20Peninsula%20and%20the%20building%20at%20199%20Seawall%20Drive%20in%20the%20Berkeley%20Waterfront.pdf. (accessed October 2025).

[b] East Bay Regional Park Improvement Project. 2025. North Basin Strip Shoreline Park Improvement Project. https://www.ebparks.org/sites/default/files/2025-0512_NBS-Feasibility-Report.pdf. (Accessed June 2025).

[c] Berkeley, City of. 2025. Parks, Recreation, and Waterfront Department Capital Improvement Project and Minor Maintenance Program Update. https://berkeleyca.gov/sites/default/files/documents/2025-03-28%20%20Parks%2C%20Recreation%2C%20and%20Waterfront%20Department%20Capital%20Improvement%20Project%20and%20Minor%20Maintenance%20Program%20Update.pdf. (accessed October 2025).

[d] Berkeley, City of. 2009. Berkeley Climate Action Plan. https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan (accessed October 2025)

[e] Berkeley, City of. 2024. Status of the Southern Peninsula and the building at 199 Seawall Drive in the Berkeley Waterfront. November 18. https://berkeleyca.gov/sites/default/files/documents/2024-11-18%20%20Status%20of%20the%20Southern%20Peninsula%20and%20the%20building%20at%20199%20Seawall%20Drive%20in%20the%20Berkeley%20Waterfront.pdf. (Accessed June 2025).

[f] Metropolitan Transportation Commission and Association of Bay Area Governments. 2025. Plan Bay Area 2050+ Final Blueprint: Transportation Project List Attachment F - Updated. https://planbayarea.org/sites/default/files/meetings/attachments/6204/10a_25_0106_7_Attachment_F_Transportation_Project_List_CORRECTED.pdf. (accessed June 2025).

[g] Berkeley, City of. 2025. Reject All Bids Associated with Cesar Chavez Park Perimeter Pathway Improvement Project. https://berkeleyca.gov/sites/default/files/documents/2025-09-09%20Item%2014%20Reject%20All%20Bids%20Associated%20with%20Cesar%20Chavez.pdf#:~:text=The%20City%20received%20five%20bids%2C%20the%20lowest%20being,the%20Project%20is%20paused%20at%20the%20design%20phase. (accessed October 2025).

[h] Berkeley, City of. 2025. K-Dock Restroom Renovation Project. https://berkeleyca.gov/your-government/our-work/capital-projects/k-dock-restroom-renovation. (accessed October 2025).

Secondary Impacts

Mitigation Measures

Section 15126.4(a)(1)(D) of the CEQA Guidelines states that "if a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." As required by the CEQA Guidelines, this EIR considers the potential secondary impacts from mitigation. Specifically, this EIR considers the potential secondary impacts on Air Quality, Hazards and Hazardous Materials, and Utilities and Service Systems due to Biological Resources mitigation for impacts associated with fill of the Bay. Please refer to Section 3.3, *Biological Resources* for a discussion of the secondary impacts from mitigation.

Parking

In compliance with CEQA and the CEQA Guidelines, as well as case-law, the City does not analyze the loss of, or change in, parking capacity as a CEQA impact, and instead focuses on potential secondary environmental impacts related to parking, such as drivers circling the area searching for parking. Please refer to Section 3.2, *Air Quality;* Section 3.10, *Noise;* and Section 3.12, *Transportation,* for an analysis of such potential secondary impacts.[3]

Relationship with Draft Waterfront Specific Plan

The proposed Project can be built with or without the development associated with the Draft Waterfront Specific Plan, and can offer recreational amenities and services to residents in Berkeley and the region regardless of whether the Draft Waterfront Specific Plan is adopted. The proposed Project and the Draft Waterfront Specific Plan are not interdependent, and each project can proceed without the other. For example, the proposed Project can provide recreational amenities and ferry service to people in Berkeley and the region, without implementation of the commercial development contemplated by the Draft Waterfront Specific Plan. Accordingly, the proposed project is a separate "project" under CEQA, because it constitutes the "whole of an action." However, for completeness, this EIR considers the potential contributions of other projects such as the Draft Waterfront Specific Plan with respect to cumulative impacts.

[3] Parking impacts, such as whether a project provides adequate parking, are exempt from CEQA review. As stated in San Franciscans Upholding the Downtown Plan v. City & County of San Francisco (2002) 102 Cal.App. 656 at 697, "The social inconvenience of having to hunt for scarce parking spaces is not an environmental impact; the secondary effect of scarce parking on traffic and air quality is. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. An EIR need only address the secondary physical impacts that could be triggered by a social impact." Therefore, parking scarcity alone does not constitute a significant impact on the environment. Instead, projects must be looked at on a case-by-case basis to determine whether there are secondary impacts related to scarcity of parking (See, Save Our Access-San Gabriel Mountains v. Watershed Conservation Authority (2021) 68 Cal.App.5th 8).

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3.1 Aesthetics

3.1.1 Introduction

This section describes existing conditions related to visual character, views, scenic views and resources, and light and glare, as well as the relevant regulatory framework. This section also evaluates potential impacts to aesthetics that could result from implementation of the proposed project. Information in this section is based on information obtained from the Berkeley General Plan, California State Scenic Highway System map, photographs taken of the project site, and project-specific visual simulations.

3.1.2 Environmental Setting

Visual Character

Visual character in the CEQA context is an impartial description of the defining physical features, landscape patterns, and distinctive physical qualities within a landscape. Visual character is informed by the composition of land, vegetation, water, and structure and their relationship (or dominance) to one another, and by prominent elements of form, line, color, and texture that combine to define the composition of views. Visual character-defining resources and features within a landscape may derive from notable landforms, vegetation, land uses, building design and façade treatments, transportation facilities, overhead utility structures and lighting, historic structures or districts, or panoramic open space.

Project Site

The project site and vicinity are located at and near the San Francisco Bay shoreline and are generally characterized by a mixture of developed and natural waterfront elements. The project site is generally surrounded by open water, except for a portion of the northern boundary which abuts built structures, the Berkeley Marina, and open and recreational space (Shorebird Park, Horseshoe Park, and McLaughlin Eastshore State Park). Available amenities in and around the project site include recreational uses (such as Shorebird Park and beach, the Bay Trail Extension, picnic tables, public sailing docks, and a nature center), restaurant buildings, surface parking areas, and open water. Vegetation within the project site includes mature trees (such as Monterey pines and Torrey pines), coyote brush scrub, ruderal vegetation, and low-lying ornamental shrubs and grasses.

The closed Berkeley Pier, which is in the western portion of the project site, extends approximately 3,000 feet into the Bay and is surrounded by open water to the north, south, and to the west. The Berkeley Pier is shown in Figure 3.1-1, Photograph 1. The Pier is characterized by its extended, linear form, which is emphasized by the wooden pier structure, vertical pilings, and the single row of evenly spaced light standards running along the north side of the entire length of the pier. The worn, established character of the Pier is defined by the sun-bleached wooden railings covered in lichen and the moss-tinged concrete walkway.

An existing concrete and asphalt walking trail is located along the waterfront extending north and south of the Pier, as shown in Figure 3.1-1 Photographs 2 and 3. Seawall Drive and parking spaces are adjacent to these trails to the east. Adjacent to Pier to the north is the Skates on the Bay restaurant (shown in Figure 3.1-1, Photograph 4, below). A parking lot is located to the east of the Skates on the Bay restaurant; beyond that to the northeast is the Berkeley Marina which provides

1,000 leased private boat slips, 10 percent of which are live-aboard boats (Figure 3.1-1, Photograph 5).

Recreational land uses proximate to the project site include brown gravel trails along the waterfront and existing shrub and tree vegetation. Frontage Road, which is adjacent to I-80, connects residential and recreational land uses in the project vicinity. There is open water to the west of I-80 (Figure 3.1-1, Photograph 6) and denser commercial and residential development beyond I-80 to the east. There are two wooden signs in the project site; one for the HS Lordships Restaurant, which is closed, and one for the Skates on the Bay Restaurant, which is adjacent to the existing pier. Both signs face east towards Seawall Drive. There is also a large sign at the entrance of the parking lot across the street from the Skates on the Bay Restaurant, which faces west towards the existing pier. Additional signage in the vicinity includes typical street and wayfinding signage along University Avenue and Seawall Drive.

Figure 3.1-1, Photographs 7 and 8, shows the project site from Grizzly Peak Boulevard (approximately 5.5 miles east of the project site) and Stonewall Panoramic Trail.

Views

Views may be generally described as panoramic views of a large geographic area for which the field of view can be wide and extend into the distance. Associated vantage points provide an orientation from publicly accessible locations. Examples of distinctive views include urban skylines, valleys, mountain ranges, or large bodies of water. Viewshed is a term used to describe a range of resources and their context related to what people can see in the foreground, middle ground, and background distances.

Project Site

VIEWS FROM AND THROUGH THE PROJECT SITE

Viewers recreating, driving, biking, sailing, swimming, or walking through or proximate to the project site may be afforded views of the Berkeley Marina and the San Francisco Bay as well as more distant views of the Golden Gate Bridge and the San Francisco City skyline as they visit Berkeley parks (i.e., Shorebird Park, Horseshoe Park, and McLaughlin Eastshore State Park) and trails or travel through Berkeley. Public views through the project site would vary based on location, proximity, and weather clarity (i.e., fog density).

The Pier is currently closed to the public, however, the Pier and the waterfront area on the project site and adjacent to the Pier provide varied distance views of the San Francisco Bay as well as distant views of the Berkeley hills to the east, the Bay Bridge to the southwest, and the City of San Francisco to the west on clear days.

VIEWS OF THE PROJECT SITE

Expansive views of the project site, including the Berkeley pier, are available from publicly accessible waterfront points near the project site. Expansive views of the project site and the surrounding Bay are also available from recreational viewing locations such as the Emeryville Marina and Point Emery, located approximately 1.2 miles south and southeast of the project site, respectively. Extended views of the project site are available from the waterfront recreational trails at Brickyard Cove, located approximately 0.5 mile east of the project site. Views of the project site are also available from César E. Chávez Park, located approximately 0.5 mile north of the project site, although these views are intermittently obstructed by intervening trees.

Figure 3.1-1 Visual Character Photographs of the Project Site



Photograph 1: Existing Berkeley Pier



Photograph 2: Existing trail extending south of the Berkeley Pier



Photograph 3: Existing rail extending north of the Berkeley Pier



Photograph 4: Existing Skates on the Bay Restaurant, adjacent to and north of the Berkeley Pier



Photograph 5: Existing boat docks northeast of the Berkeley Pier



Photograph 6: Existing project site from Frontage Road between University and Ashby Avenues



Photograph 7: Existing project site from Grizzly Peak Road



Photograph 8: Existing project site from the Stonewall Panoramic Trail

Existing trees and vegetation along the edge of the project site block most views of the project site from the Marina docks. In addition, public views of the project site vary based on location, proximity, and weather clarity (i.e. fog density). However, in the vicinity, the project site is generally visible from recreational trails and parks (Shorebird Park and Horseshoe Park) and shoreline areas.

The project site is also distantly visible from elevated publicly accessible viewpoints, such as those afforded by hillside roadways and trails. Distant views of the project site are available from Grizzly Peak Boulevard (approximately 5.5 miles east of the project site) and Stonewall Panoramic Trail. Grizzly Peak Boulevard provides the public with panoramic summit views of the landscape, including the city, the Bay, and the Bay Bridge, as well as access to local trailheads (e.g. Grizzly Peak Trail, Seaview Trail) and Grizzly Peak Vista Point. The Stonewall Panoramic Trail, and other local trails, provide similar viewsheds which encompass the expansive views of the area.

Scenic Resources and Scenic Views

Most communities identify scenic resources as important visual assets that contribute to community identity. Visual resources are generally classified into two categories: scenic resources and scenic views. These resources can include natural and open spaces, as well as the built environment, specifically landforms, trees, water features, rock outcroppings, and historic buildings insofar as they enhance and define the visual character of a landscape.

Scenic views are elements or components of the broader viewshed such as shorelines, mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed), such as trees. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Project Site

The San Francisco Bay (Bay), which surrounds the project site to the north, south, and west, is identified as a significant view in the Berkeley General Plan Urban Design and Preservation Element.[1] In addition, in Policy UD-31 of the Berkeley General Plan identifies significant views of landmarks, including of Golden Gate Bridge and Alcatraz Island, which are visible from the project site. Additionally, the Berkeley General Plan Transportation Element identifies scenic routes within Berkeley. Scenic routes are defined as a segment of an established regional network of routes which traverse or provide the most efficient routes to or between areas of major scenic, recreation, or cultural attractions. In the project vicinity, I-80, University Avenue, and Ashby Avenue are identified as scenic routes that have views of the project site.[2]

Scenic Highways

The California Scenic Highway Program designates scenic highways with the intention of protecting these corridors from change that could diminish the aesthetic value of adjacent lands. The California Department of Transportation (Caltrans) State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. A highway may be designated scenic depending upon how much of the natural landscape can be seen

[1] Berkeley, City of. 2002. Berkeley General Plan Urban Design and Preservation Element. Available: https://berkeleyca.gov/sites/default/files/documents/13_Urban%20Design%20and%20Preservation%20Element-FINAL.pdf. (accessed July 2025)
[2] Berkeley, City of. 2001. Berkeley General Plan Transportation Element. https://berkeleyca.gov/sites/default/files/2022-02/General-Plan_Transportation-Element.pdf. (accessed July 2025)

by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. A highway is designated as an eligible scenic highway when the local governing body (city or county) applies to Caltrans for scenic highway approval, and Caltrans determines that it qualifies for official status.[3]

Project Site

The nearest State-designated scenic highway is a portion of State Route 24 (SR 24), which is located approximately 5.5 miles southeast of the project site.[4] However, due to the distance and intervening development and landforms, the project site is not visible from SR 24. The nearest eligible State scenic highway is a segment of I-80 near Golden Gate Fields that is located approximately 1.7 miles north of the project site. Similarly, due to intervening development and landforms, the project site is not visible from I-80.

Light and Glare

In the context of CEQA, light is nighttime illumination that stimulates sight and makes things visible. Glare refers to light that is so bright that it creates a nuisance or a hazard, or inhibits the ability to see effectively, such as direct or reflected sunlight.

Project Site

LIGHT

Primary stationary sources of light at the project site include streetlights, parking lot and safety lighting, pier lighting, and exterior building lights. Automobile headlights also create temporary, mobile sources of light along proximate roadways and within on-site and nearby parking lots. Refer to Figure 3.1-2, Photograph 1 for a representative photograph of the existing lighting on the pier. Refer to Figure 3.1-2, Photograph 2 for a photograph of the Berkeley Waterfront, which shows the nighttime lighting on the pier, as well as the Seawall Drive Parking lot (refer to the middle of the photograph, to the peninsula located to the left of the pier).

GLARE

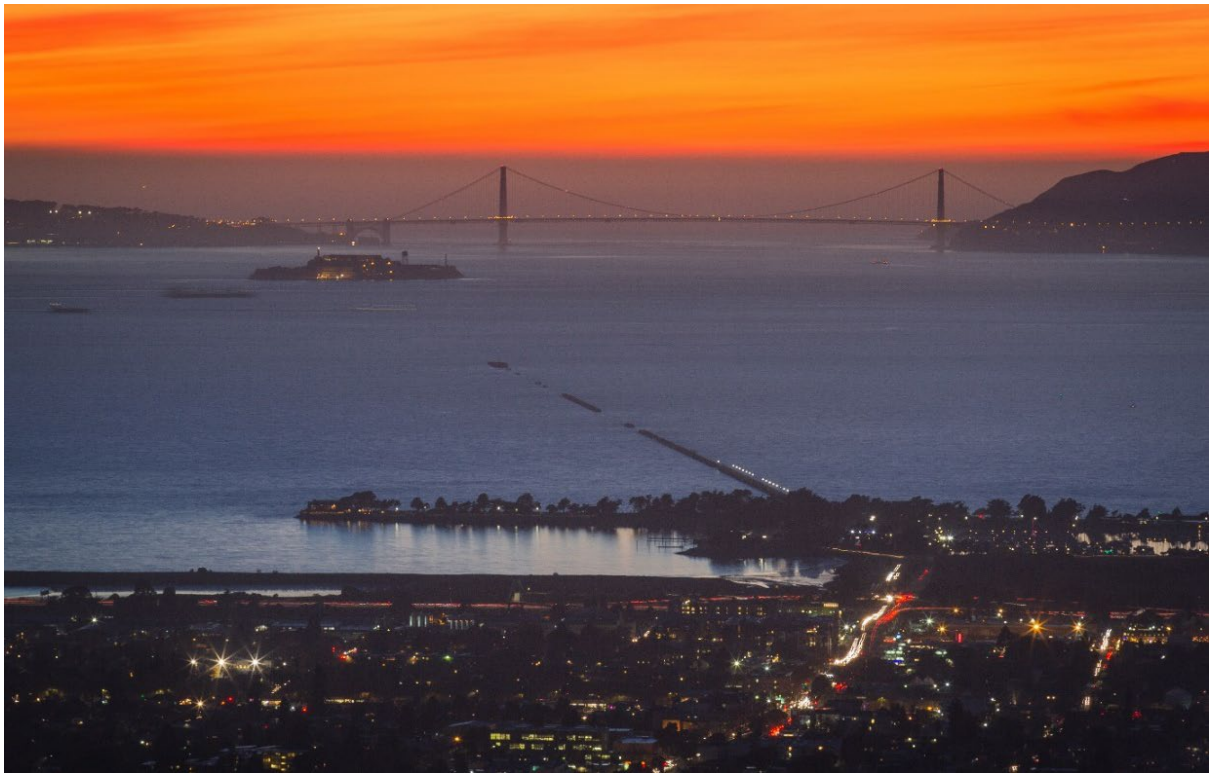
Current glare levels within the project site and the vicinity are consistent with urbanized development. Primary sources of glare include sunlight reflected in the windows of buildings, including glass façades, and the windshields of parked cars, as well as reflections on the Bay along the waterfront.

[3] California Department of Transportation. 2025. Scenic Highways – Frequently Asked Questions. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2 (accessed January 2025)
[4] California Department of Transportation. 2019. List of eligible and officially designated State Scenic Highways (XLSX). Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. (accessed July 2025)

Figure 3.1-2 Nighttime Lighting Photographs at the Project Site



Photograph 1: Existing Nighttime Lighting on the Berkeley Pier



Photograph 2: Existing Nighttime Lighting on the Berkeley Pier and Seawall Drive Parking Lot

3.1.3 Regulatory Framework

Federal Regulations

No federal plans, policies, regulations, or laws related to aesthetics are applicable, because the project site is not located on federal lands and does not include scenic resources that are federally regulated (i.e., historic resources or Wild and Scenic Rivers).

State Regulations

California Scenic Highway Program

The State Legislature created the California Scenic Highway Program, maintained by Caltrans, in 1963. The purpose of the State Scenic Highway Program is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated as such. The status of a proposed State Scenic Highway changes officially from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

California Code of Regulations Title 24 - Building Lighting Characteristics

The California Building Standards Code (California Code of Regulations [CCR] Title 24) includes the Building Energy Efficiency Standards (included in Parts 6 and 12 of CCR Title 24). Section 6.3 of the Nonresidential and Multifamily Compliance Manual of the Building Energy Efficiency Standards regulates lighting characteristics (i.e., maximum power/brightness, shielding, light sensor controls). Different lighting standards are set by classifying areas by lighting zone. The classification is based on 2010 United States Census population estimates. Areas can be designated as LZ0 (very low), LZ1 (low), LZ2 (moderate), LZ3 (moderately high), and LZ4 (high). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass. The City of Berkeley falls under the “urban” standard and thus, is designated LZ3.

Regional and Local Regulations

Berkeley General Plan Open Space Element

The Berkeley General Open Space Element includes the following policy applicable to aesthetics:

Policy OS-12 Adjacent Uses

Ensure that land adjacent to parks is sensitively developed so that shade on the park is minimized, safe access is maintained, and views are not significantly reduced. Actions:

A. Assure that new development along the shoreline recognizes its unique location, considers sensitive natural resources, and maintains adequate shoreline access and views.

Berkeley General Plan Urban Design Element

The Berkeley General Urban Design Element includes the following objectives and policies applicable to aesthetics:

Objective 1: Protection of Existing Resources

Preserve historically or culturally important structures, sites, and areas and protect the character of Berkeley's neighborhoods and districts.

Objective 3: New Construction and Alterations

Ensure that new construction and alterations are well designed and respect and enhance the existing environment.

Policy UD-3: Regulation of Neighborhood Character

Use regulations to protect the character of neighborhoods and districts, and respect the particular conditions of each area.

Policy UD-7: Disaster Preparedness

Encourage and support the long-term protection of historically or architecturally significant buildings to preserve neighborhood and community character.

Policy UD-16: Context

The design and scale of new or remodeled buildings should respect the built environment in the area, particularly where the character of the built environment is largely defined by an aggregation of historically and architecturally significant buildings.

Policy UD-18: Contrast and Cohesiveness

The overall urban experience should contain variety and stimulating contrasts achieved largely through contrast between different areas each of which is visually cohesive.

Policy UD-19: Visually Heterogeneous Areas

In areas that are now visually heterogeneous, a project should be responsive to the best design elements of the area or neighborhood.

Policy UD-22: Regulating New Construction and Alterations

Regulate new construction and alterations to ensure that they are individually well-designed and that they are so designed and located as to duly respect and where possible enhance the existing built environment.

Policy UD-23: Design Review

Ensure that the design review process ensures excellence in design and that new construction and alterations to existing buildings are compatible with the best elements of the character of the area.

Policy UD-24: Area Character

Regulate new construction and alterations to ensure that they are truly compatible with and, where feasible, reinforce the desirable design characteristics of the particular area they are in.

Policy UD-30: Planting

Ensure that, where feasible, new developments respect and contribute to the urban landscape by retaining existing on-site trees and/or, if appropriate, planting suitable new ones on-site or in the street right-of-way.

Policy UD-31: Views

Construction should avoid blocking significant views, especially ones toward the Bay, the hills, and significant landmarks such as the Campanile, Golden Gate Bridge, and Alcatraz Island. Whenever possible, new buildings should enhance a vista or punctuate or clarify the urban pattern.

Policy UD-35: Public Improvements

Undertake, and/or participate in, major improvement projects aimed at making the streetscape more enjoyable, clarifying and strengthening the urban pattern, and generally enhancing Berkeley's physical character. Public works projects should be designed to make it easier for people to orient themselves within Berkeley and understand and appreciate the city's various districts and neighborhoods, as well as to generally enhance the urban environment.

Berkeley General Plan Land Use Element

The Berkeley General Land Use Element includes the following objectives and policies applicable to aesthetics:

LU Element Objective 1

Maintain and preserve the character of Berkeley.

Policy LU-1: Community Character

Maintain the character of Berkeley as a special, diverse, unique place to live and work.

Policy LU-4: Discretionary Review

Preserve and enhance the aesthetic, environmental, economic, and social character of Berkeley through careful land use and design review decisions.

Berkeley General Plan Transportation Element

The Berkeley General Plan Transportation Element includes a Vehicular Circulation Network map (Figure 10) that classifies the Berkeley street system, including identifying scenic routes within Berkeley. These routes include, but are not limited to, I-80, University Avenue, and Ashby Avenue.

Berkeley Marina Master Plan

The Berkeley Marina Master Plan aims to provide long-term open space enhancement for the Marina and includes the following guiding principles related to visual resources and aesthetics[5]:

- **Principle 1:** Protect, restore, enhance, and expand wildlife habitat, open space, natural areas and biological resources.
  - A. Protect, increase and enhance natural habitat and open space.
    - *Maintain existing informal landscaping and provide new plantings.* The Marina's landscaping conveys an informal, almost park-like setting comprised of extensive plantings of trees, shrubs, and open lawn areas. Future landscaping should continue this informal theme emphasizing native plants wherever possible. As needed, new plantings should concentrate on replacing dead or diseased plants and "filling out" areas of sparse plantings. Where new areas of planting are proposed their potential for view blockage and unwelcome shading should be considered. Plantings should be compatible in scale and color with the surrounding environment. Additional plantings should be installed to screen boatyard activities and parking lots and to enhance pedestrian pathways.
  - B. Improve the Marina's landscaping, signage, and pedestrian amenities.
    - *Enhance the Marina Entrance by installing new signage and plantings to create a sense of "arrival" at the Marina.* The entrance to the Marina should be enhanced with landscaping to make it more appealing and signify arrival, while emphasizing views of the Bay, harbor, and boats. The PacBell building at the corner of Marina and University should be screened. Decorative pilings located at the entrance require removal for safety reasons. Incorporation of public art to replace the piles should be considered. Views into the Marina at its entry should be kept open.
    - *Incorporate overlooks at the north end of Seawall Drive into a new pathway design for the area.*
- **Principle 3:** Maintain and upgrade infrastructure.
  - *Improve restroom facilities.* Restrooms should be sited and landscaped to minimize the visual impacts of the structures. Adequate signage should be installed to identify locations. All the Marina's restrooms should eventually be replaced to make them comply with ADA requirements. Like other buildings at the Marina, they are aging and have only received limited refurbishment. A facility should be located near the parking circle at the end of Spinnaker Way.[6, 7]

[5] Berkeley, City of. 2003. Berkeley Marina Master Plan. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-marina-master-plan (accessed July 2025)

[6] This recommendation is quoted verbatim from the Berkeley Marina Master Plan. Since the adoption of the Marina Master Plan, the City has undertaken radiological testing at César Chávez Park at the direction of the San Francisco Regional Water Quality Control Board. An off-agenda memoranda dated December 30, 2024, and June 5, 2025, and the City Manager's subsequent update on November 17, 2025, report that radium-226 and radon associated with historic landfill materials were detected during subsurface testing. In response, the City is reassessing the suitability of a potential restroom site at the end of Spinnaker Way.

[7] Berkeley, City of. 2025. Update on Additional Radiological Testing at Former Landfill at César Chávez Park and Updated Radiation Health and Safety Plan. Available: https://berkeleyca.gov/sites/default/files/documents/2025-11-17%20Update%20on%20Additional%20Radiological%20Testing%20at%20Former%20Landfill%20at%20Cesar%20Chavez%20Park%20and%20Updated%20Radiation%20Health%20and%20Sa%20%281%29.pdf (accessed February 2026).

Berkeley Municipal Code

The Berkeley Municipal Code includes regulations and standards related to visual resources and aesthetics, including:

- Chapter 6.20 contains rules and regulations pertaining to the use of the Berkeley Pier and Marina.
- Chapter 11.56 regulates development on the waterfront with the intent of preserving open space, views, wetlands, tidal mudflats, seasonal ponds, wetlands-type environment, creeks, meadows, beaches, and the low-density character of the waterfront area of the City.
- Chapter 23 includes general development standards including the height, setback, and light and glare regulations.

San Francisco Bay Plan

The San Francisco Bay Plan[8] developed by the San Francisco Bay Conservation and Development Commission (BCDC) aims to maintain and enhance the Bay as a body of water that affords scenic enjoyment. Key aesthetics objectives in the form of findings and policies applicable to the proposed project include the following:

- Public Access Findings and Policies
  - Finding a. San Francisco Bay is a dominant feature of the nine-county Bay Area and affords a variety of habitats for many diverse plant and wildlife populations. It provides an environment for numerous forms of public enjoyment including viewing, photography, wildlife observation, nature study, fishing, wading, walking, bicycling, jogging, or just sitting beside the water. As an outstanding visual resource, the Bay is an important focal point for the entire region that serves to orient people to its various parts.
  - Finding j. Although opportunities for views of the Bay from public access areas have increased since the Bay Plan was adopted in 1968, there are still a significant number of shoreline areas where there exists little or no visual access to the Bay.
  - Policy 9. Public access improvements provided as a condition of any approval should be consistent with the project, the culture(s) of the local community, and the physical environment, including protection of Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience. The improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should provide barrier free access for persons with disabilities, for people of all income levels, and for people of all cultures to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs, including using appropriate languages or culturally-relevant icon-based signage.
  - Policy 11. Roads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.

[8] BCDC. 1969. San Francisco Bay Plan. Available: https://bcdc.ca.gov/resources/plans/san-francisco-bay-plan/#introduction. (accessed September 2024).

- Appearance, Design, and Scenic Views Findings and Policies
  - Finding a. Much too often, shoreline developments have not taken advantage of the magnificent setting provided by the Bay. Some shoreline developments are of poor quality or are inappropriate to a waterfront location. These include uses such as parking lots and some industrial structures, which neither visually complement the Bay nor take advantage of a waterfront location. Over time, existing shoreline development of poor quality and inappropriate uses will be phased out or upgraded by normal market forces and by public action or a combination of both.
  - Finding b. Unsightly debris, such as plastic bottles, old tires, and other refuse continues to mar the appearance of the shoreline, particularly of marshes, mudflats, and sloughs.
  - Finding c. The appearance of the Bay, and people's enjoyment of it as a scenic resource, contribute to the enjoyment of daily life in the Bay Area. As a special kind of open space, the Bay acts as both the unifying element of the entire Bay region and as a physical divider of its parts. The wide surface of the Bay, and the distant vistas it affords, offer relief from the crowded, often chaotic, urbanized scene and help to create a sense of psychological wellbeing.
  - Finding d. Probably the most widely enjoyed "use" of the Bay is simply viewing it-from the shoreline, from the water, and from afar; a Bay view can add substantially to the value of a home, office, or apartment building. Also, the Bay is a major visitor attraction for the tourist industry.
  - Finding e. As a world-renowned scenic resource, the Bay is viewed and appreciated from many locations in the region. However, full advantage has not been taken of the dramatic view potential from the hills and other inland locations surrounding the Bay, often because of poor road and street layout and poorly located buildings or landscaping. While some jurisdictions have adopted controls on building heights and locations, there is still no general attention to maximizing views from streets and roads and to obtaining public view areas. In particular, along many urban waterfronts, man-made obstructions such as buildings, parking lots, utility lines, fences, billboards, and even landscaping have eliminated or severely diminished views of the Bay and shoreline.
  - Finding f. One of the visual attractions of San Francisco Bay is its abundance of wildlife, particularly birds which are constantly moving around the Bay waters, marshes, and mudflats in search of food and refuge. The navigable, deep water sites around the Bay are a unique and limited resource and should be protected for uses requiring deep draft ship terminals, such as water-related industries and ports.
  - Policy 1. To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.
  - Policy 2. All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commission's concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.

- Policy 3. In some areas, a small amount of fill may be allowed if the fill is necessary-and is the minimum absolutely required-to develop the project in accordance with the Commission's design recommendations.
- Policy 4. Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline. However, some small parking areas for fishing access and Bay viewing may be allowed in exposed locations.
- Policy 8. Shoreline developments should be [built] in clusters, leaving open area around them to permit more frequent views of the Bay. Developments along the shores of tributary waterways should be Bay-related and should be designed to preserve and enhance views along the waterway, so as to provide maximum visual contact with the Bay.
- Policy 10. Towers, bridges, or other structures near or over the Bay should be designed as landmarks that suggest the location of the waterfront when it is not visible, especially in flat areas. But such landmarks should be low enough to assure the continued visual dominance of the hills around the Bay.
- Policy 12. ln order to achieve a high level of design quality, the Commission's Design Review Board, composed of design and planning professionals, should review, evaluate, and advise the Commission on the proposed design of developments that affect the appearance of the Bay in accordance with the Bay Plan findings and policies on Public Access; on Appearance, Design, and Scenic Views; and the Public Access Design Guidelines. City, county, regional, state, and federal agencies should be guided in their evaluation of bayfront projects by the above guidelines.
- Policy 14. Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay.
- Policy 15. Vista points should be provided in the general locations indicated in the Plan maps. Access to vista points should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where parking or public transportation is available. In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.

- Transportation Policies
  - Policy 4. Transportation projects on the Bay shoreline and bridges over the Bay or certain waterways should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails. Transportation projects should be designed to maintain and enhance visual and physical access to the Bay and along the Bay shoreline.

3.1.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Aesthetics.

Would the proposed project:

a) Have a substantial adverse effect on a scenic vista?
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
c) In non-urbanized areas, substantially degrade existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Approach to Analysis

Visual resources are generally defined as including natural and built features in the visible landscape. Landforms, water, and vegetation are among the natural elements that define an area's visual character. Buildings, roads, and other structures reflect human modifications to the natural landscape. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to views and aesthetic conditions differently. This evaluation is limited to public views, as impacts to private views do not constitute an environmental impact under CEQA. This analysis evaluates changes to the existing visual environment resulting from the project.

Scenic Vistas and Resources

For the purposes of analysis, a scenic vista is a view from a public place (roadway, designated scenic viewing spot, etc.) that is expansive and considered by the City of Berkeley to be important. It can be obtained from an elevated position (such as from a trail near the top of a hillside) or it can be seen from a roadway with a longer-range view of the landscape. A significant impact could occur if a proposed project component would block or otherwise damage the scenic vista upon implementation. The City also considers whether a proposed project component would block views from a scenic route or corridor toward a visual/scenic resource (i.e., shoreline, ridgeline). Thus, this criterion is also analyzed as part of Impact AES-1.

Visual Character and Quality of Public Views / Consistency with Regulations Governing Scenic Quality

The impacts on visual character or quality attributable to proposed project implementation were evaluated relative to visual conditions under buildout, as estimated by existing experiences from public viewpoints in and around Berkeley. Photographs of the project site were taken and associated with visual simulations prepared to support this analysis.

California Public Resource Code Section 21071 defines an urbanized area as:

1. An incorporated city that has either:
   a. A population of at least 100,000 persons, or
   b. A population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons.
2. An unincorporated area that is either:
   a. Completely surrounded by one or more incorporated cities and both of the following criteria are met:
      i. The population of the unincorporated area and the population of the surrounding incorporated city or cities equals at least 100,000 persons
      ii. The population density of the unincorporated area at least equals the population density of the surrounding city or cities.
   b. Located within an urban growth boundary and has an existing residential population of at least 5,000 persons per square mile.

Pursuant to California Public Resource Code Section 21071, the City of Berkeley is in an urbanized area, because the city's population is estimated at 128,348 in 2025, which exceeds 100,000 persons.[9] Given that the proposed project would be developed in an urbanized area, the impact discussion related to visual character and views is focused on consistency with applicable zoning and other regulations governing scenic quality, such as those included in the Berkeley General Plan, Municipal Code, and BCDC Bay Plan. Additionally, the City considers whether a proposed project would be inconsistent with the character of a given plan area, or existing development in the surrounding area, or would substantially alter existing natural topography. Since Berkeley also regulates visual character and quality of public views through qualitative criteria, visual character is also evaluated by considering whether a project would conflict with the surrounding area's character or substantially alter natural topography. This criterion is analyzed as part of Impact AES-3.

Visual Simulations

To represent views that would be experienced from public locations, five key viewpoints (KVPs) were selected for the simulation of post-project conditions. The location of the KVPs and the visual simulations are shown in Impact AES-1. Each KVP presents a single viewpoint that depicts the visual change that implementation of the project would have on viewers from the identified viewpoint (sensitive receptors).

Visual simulations of the project from the identified KVPs were prepared by Environmental Vision (2025) to provide a comparison of pre- and post-project conditions, as shown in Figure 3.1-4 through Figure 3.1-8. The visual simulations provided in these figures are the result of a computer modeling process that combines gathered field data (photographs and measurements) with the conceptual engineering design data to digitally model a simulated image of the project.

[9] California Department of Finance. 2025. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2025 with 2020 Benchmark. Available: https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/ (accessed July 2025)

Light and Glare

The analysis of light and glare impacts focuses on the nature and magnitude of changes in light and glare conditions associated with implementation of the proposed project on the project site and surroundings. If the light and glare conditions of the proposed project and the existing environment are similar, then the visual compatibility would be high. If the light and glare conditions of the proposed project strongly contrast with the existing light and glare or applicable policies and guidelines, then light and glare compatibility would be low and significant impacts may result. Proposed design standards and guidelines as well as proposed project objectives are applied to determine the significance of light and glare impacts associated with the proposed project.

Similarly, the City considers whether a proposed project would increase nighttime light or daytime glare sources in a manner that would substantially affect nighttime or daytime views. Thus, this criterion is analyzed as part of Impact AES-4.

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to various concerns regarding aesthetics.

One agency (BCDC) requested that the City consider policies related to aesthetics, including the Public Access Design Guidelines for Shoreline Spaces when considering effects on scenic vistas and scenic resources. The *San Francisco Bay Plan* subsection in Section 3.1.3, *Regulatory Framework* includes a list of relevant policies from the Bay Plan and Impact AES-1 and AES-3 discuss consistency with these policies.

Organizations and individuals provided general comments about addressing impacts on views, aesthetics impacts from tree removal, and lighting. Impacts on views and impacts from the removal of trees are addressed in Impact AES-1 and AES-3. Impacts related to lighting are addressed in Impact AES-4.

Specific Thresholds of Significance

The City of Berkeley has not adopted quantitative thresholds specifically for the evaluation of aesthetics. However, the City applies the following qualitative thresholds based on adopted policies and guidelines to evaluate the significance of aesthetics impacts resulting from development.

- Permanent project infrastructure blocking or significantly altering existing views from a City- or State-identified scenic route or corridor toward a visual/scenic resource (i.e., Bay, skyline, or ridgeline)
- Substantially alter existing natural topography or damaging scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings.
- Permanent project infrastructure being inconsistent with or degrading the visual character of the project site or existing development in the surrounding area or degrading the quality of public views of the project site.
- Construction or operation of facilities or infrastructure creating a new source of substantial light or glare that would adversely affect day or nighttime views for sensitive receptors (i.e., residents) near the project site.

Impact Evaluation

Scenic Vistas

Significance Criterion a:	Would the proposed project have a substantial adverse effect on a scenic vista?

Impact AES-1 THE PROPOSED PROJECT WOULD HAVE A RELATIVELY LOW PROFILE COMPARED TO SCENIC VIEWS AND VISTAS IN THE VICINITY, AND COMPLIANCE WITH POLICIES OF THE BERKELEY GENERAL PLAN, BERKELEY MARINA MASTER PLAN, AND SAN FRANCISCO BAY PLAN WOULD PROTECT SCENIC VISTAS TO ENSURE THAT DEVELOPMENT OF THE PROJECT WOULD NOT ADVERSELY AFFECT PUBLIC VIEWS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction

Impacts related to substantial permanent adverse effects on a scenic vista are limited to operational impacts, because construction impacts would not result in permanent or long-term obstructions to scenic vistas. No permanent substantial adverse effects on scenic vistas from construction would result from implementation of the proposed project. Therefore, construction impacts related to effects on a scenic vista would be less than significant.

Operation

Due to its placement on the water and low elevation compared to surrounding topographies and viewing locations, the proposed project would be prominently visible from proximate streets and the waterfront, and distantly visible from elevated viewpoints once constructed. As shown in Figure 3.1-3 through Figure 3.1-8, the project would be visible from public views (or KVPs) identified and shown in Figure 3.1-3. Additionally, views of the project would be available from numerous trails and viewing points, such as those afforded from the Grizzly Peak Overlook and the Berkeley Overlook.

KVP 1 (Figure 3.1-4) depicts the view looking west-southwest toward the Pier from the waterfront path near Skates on the Bay, representing the view recreational visitors of the pier and waterfront, water-based recreationalists, and motorists along Seawall Drive would have of the project site. As shown in Figure 3.1-4, views of the San Francisco skyline would be affected; however, the San Francisco skyline would remain visible. Additional views would be available from the proposed pier. KVP 2 (Figure 3.1-5) depicts the view looking northwest toward the Pier from the waterfront path near H.S. Lordships and the proximate parking area, representing the view visitors at H.S. Lordships, water-based recreationalists, and motorists along Seawall Drive would have of the project site. As shown in Figure 3.1-5, views of the Bay and ridgelines would remain visible. KVP 3 (Figure 3.1-6) depicts the view looking north toward the Pier from the northernmost point of the Marina Park Pathway, approximately 1.2 miles south of the project site across the Bay. KVP 3 represents the view of the project site for recreational visitors along proximate waterfront pathways and trails; water-based recreationalists and residents at Emeryville Marina and Harbor; and residents at Watergate. As shown in Figure 3.1-6, no change would be readily visible with implementation of the proposed project. KVP 4 (Figure 3.1-7) depicts the view looking west from the South Cove Sailing docks, representing the view of the project site for land- and water-based recreational viewers. As shown in Figure 3.1-7, the project would result in views of fewer trees and new visible solar infrastructure, compared to existing conditions; however, scenic views of the Bay would remain. KVP 5 (Figure 3.1-8) depicts the view looking south-southwest from César E. Chávez Park, representing the view of the project site for land- and water-based recreational viewers. As shown in Figure 3.1-8, no change would be readily visible with implementation of the proposed project.

Figure 3.1-3 Key Viewpoints Map



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23-15427 EPS TechStudy
Fig X KVP Locations

Figure 3.1-4 Key Viewpoint 1



Photograph 1. Existing view looking west-southwest near Berkeley Pier



Simulated View 1. Proposed view of ferry landing dock after construction of the proposed project

Figure 3.1-5 Project View from Key Viewpoint 2



Photograph 2. Existing view looking northwest from existing building at 199 Seawall Drive



Simulated View 2. Proposed view of new pier after construction of the proposed project

Figure 3.1-6 Project View from Key Viewpoint 3



Photograph 3. Existing view looking north from near Emeryville Marina



Simulated View 3. Proposed view after construction of the proposed project

Figure 3.1-7 Project View from Key Viewpoint 4



Photograph 4. Existing view looking west from the South Cove Sailing docks



Simulated View 4. Proposed view after construction of the proposed project

Figure 3.1-8 Project View from Key Viewpoint 5



Photograph 5. Existing view looking south-southwest from César E. Chávez Park with existing pier in background and existing breakwaters (2) in middle ground



Simulated View 5. Proposed view after construction of the proposed project

Horizontal features associated with the proposed project (i.e., the proposed pier and breakwater) would not adversely affect scenic vistas (i.e., views of the Bay, Golden Gate Bridge, or Alcatraz islands), because the limited height of these components would not obstruct public views. The proposed project footprint is also similar to that of the existing Pier and amenities, and thus, visual encroachment of the project on scenic views of the Bay, Golden Gate Bridge, and Alcatraz Island would be minimal.

Policy OS-12, Action A, of the Berkeley General Plan provides that new development should maintain adequate shoreline views. Vertical features associated with the proposed project include solar panels above the parking stalls at the Seawall parking lot, a new restroom, and additional trees. The proposed restroom would be approximately 18 feet long by 8 feet wide and 10 feet high, located near the proposed public plaza in an area close to the proposed pier where there are currently mature trees. Since the bathroom would be set back from the water and located in an area where views of the Bay are blocked by existing vegetation, the bathroom would not present a significant obstruction or adversely affect related to public views of the Bay.

Tree removal would be included as part of the proposed project. The project would also include landscaping and planting new trees throughout the project site. Project landscaping would be implemented in accordance with the guiding principles of the Berkeley Marina Master Plan, including 1A, 1B, and 3, to enhance the visual setting of the waterfront and minimize the visual prominence of restroom structures. Appearance, Design, and Scenic Views Policy 14 of the San Francisco Bay Plan identifies that views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. Project landscaping would beneficially affect the visual quality of the project area by providing additional, healthy vegetation to the area, and compliance with above-described requirements would ensure that project landscaping does not detrimentally affect, or block, public views. Therefore, operational impacts related to effects on a scenic vista would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Scenic Resources within State Scenic Highways

Significance Criterion b:	Would the proposed project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Impact AES-2 THE PROPOSED PROJECT WOULD NOT BE LOCATED WITHIN, OR VISIBLE FROM, A DESIGNATED STATE SCENIC HIGHWAY. THE PROJECT WOULD NOT RESULT IN DAMAGE TO SCENIC RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, ROCK OUTCROPPINGS, AND HISTORIC BUILDINGS WITHIN A STATE SCENIC HIGHWAY. NO IMPACT WOULD OCCUR.

Construction and Operation

As described in Section 3.1.2, *Environmental Setting,* the nearest segments of designated (SR 24) and eligible (I-80) State scenic highways are located approximately 5.5 miles and 1.7 miles from the project site, respectively. Due to intervening development and landforms, the project would not be visible from either roadway. The project would not result in damage to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway because there are no State scenic highways at the project site, and because the project site would not be visible from a State scenic highway. Therefore, no construction or operational impacts related to adverse effects on scenic resources or scenic views within locally designated scenic roadway corridors would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

Visual Character or Quality of Public Views

Significance Criterion c:	Would the proposed project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the proposed project is in an urbanized area, would the plan conflict with applicable zoning and other regulations governing scenic quality?

Impact AES-3 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH APPLICABLE ZONING AND OTHER REGULATIONS GOVERNING SCENIC QUALITY, AND WOULD BE SUBJECT TO DESIGN REVIEW. THE EXISTING VISUAL CHARACTER OF THE AREA WOULD BE ALTERED BY THE INTRODUCTION OF MODERNIZED INFRASTRUCTURE, BUT NOT DEGRADED. THE PROPOSED PROJECT WOULD BE IMPLEMENTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BERKELEY GENERAL PLAN, BERKELEY MARINA MASTER PLAN, BERKELEY MUNICIPAL CODE, AND THE SAN FRANCISCO BAY PLAN. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The Berkeley General Plan, Berkeley Marina Master Plan, Berkeley Municipal Code, and the San Francisco Bay Plan contain policies that pertain to scenic quality, which are detailed in Section 3.1.3, *Regulatory Framework*. The Berkeley General Plan policies related to aesthetics and visual resources include those presented in the Open Space and Recreation Element and the Urban Design and

Preservation Elements. Protection and preservation of historically and architecturally significant structures and visual character (UD-3, UD-7, UD-16, UD-24, UD-35, LU-1, LU-2, LU-3, and LU-43); preservation of scenic views (OS-12 and UD-31); requires new development to be visually cohesive (UD-18, UD-19, and UD-22); requires design review for new construction and alterations (UD-23 and LU-4); and includes landscape and planting requirements for site development (UD-30). The Berkeley Marina Master Plan includes guiding principles related to landscape implementation and screening (Principle 1A), emphasizing views and scenic overlooks (Principle 1B), and reducing visual impacts of infrastructure (Principle 3). The Berkeley Municipal Code includes rules and regulations pertaining to use of the Berkeley Pier and Marina (Chapter 6.20); regulations for waterfront development and view preservation (Chapter 11.56); and general development standards such as height, setback, and light and glare regulations (Chapter 23). The San Francisco Bay Plan also includes findings and policies which serve to maintain and enhance the Bay and its scenic attributes, including but not limited to those related to visual and physical access to the Bay and waterfront, provision of vista points, and project design review.

Construction

The construction phase of the project would require delivery trucks, vehicles, and construction equipment, as well as storage, staging, and active work areas. The construction period is anticipated to begin in April 2027 and last up to 21 months, with project completion proposed by the end of 2028. The location and use of equipment in active work areas would change during the construction period depending on which components of the project site were under active construction. Temporary construction activities would not have the potential to result in conflicts with zoning and other regulations governing scenic quality. Therefore, project construction would not conflict with applicable zoning and other regulations governing scenic quality, and no impact would occur.

Construction of the proposed project would cause a change in the existing visual character and quality of the area by introducing a level of activity and heavy machinery to the waterside and landside portions of the project site that is greater than that associated with existing conditions. Although construction of the project would result in a degree of change to visual quality on the project site, construction would not degrade or block any sensitive or unique visual resources, landscapes, or public views. Furthermore, impacts associated with views of construction activities and equipment would be temporary. Construction impacts related to visual character would be less than significant.

Operation

Operation of new project infrastructure would represent a change in the existing visual character of the project site compared to existing conditions. The project would alter waterside areas of the project site with presence and operation of new permanent pier, breakwater, and ferry infrastructure. In addition, the project would alter developed areas on the landside of the project site for similar or complementary uses such as restrooms, parking areas, and public plaza as well as for University Avenue, Seawall Drive, and Bay Trail Extension improvements. Substantial changes to existing natural topography are not anticipated.

PIER AND BREAKWATER

As shown in Figure 3.1-4, the proposed breakwater would feature a solid, curvilinear shape which contrasts highly against the water. The complex series of linear forms and variable planes created by the proposed pier structures (e.g., pier surface, shade structure, railings, light fixtures) would

introduce an increased contrast with the surroundings, compared to existing conditions (Figure 3.1-4 and Figure 3.1-5). The metal and concrete materials of these components would introduce a modernized, updated character to the project site compared to existing conditions (Figure 3.1-4). Over time, the concrete pier structure would naturally weather from exposure to natural elements, which would reintroduce the more established and worn character of the existing pier. As shown in Figure 3.1-5, Figure 3.1-6, and Figure 3.1-8 the proposed breakwater would present as a solid, rectilinear form near the middle of the proposed pier; however, this feature would not present as a prominent visual feature. Additionally, while the proposed shade structure would introduce a solid visual element above the pier surface, any interruptions of surrounding views would be incremental. The proposed pier component would be approximately the same height as the existing pier and the decreased length of the proposed pier would provide less visual intrusion of views of the Bay as compared to existing conditions. While the visual character of the proposed pier and breakwater components would be altered with new materials and massing, this change represents an overall benefit to the quality of public views by creating more expansive, uninterrupted views of the Bay, and remains consistent with the character of existing development along the waterfront. For these reasons, impacts would be less than significant.

FERRY INFRASTRUCTURE

As shown in Figure 3.1-4 and Figure 3.1-5, the proposed ferry infrastructure would introduce a series of linear horizontal and vertical features and planes which would be visually consistent with the proposed pier infrastructure, but would be contrasted against the surrounding water in the Bay. These features would be most visually prominent on the north side of the proposed pier; when viewed from the south (Figure 3.1-5), views of the proposed ferry infrastructure would be interrupted and partially obscured by the sequence of evenly-spaced pier pilings. When viewed from a distance (Figure 3.1-6 and Figure 3.1-8), the proposed ferry infrastructure would not present as a prominent visual feature, and would not exceed the height of the proposed pier infrastructure in a manner that would result in the degradation of surrounding views. While the visual character of the proposed ferry infrastructure would introduce new materials and massing, these components would be consistent with visual character of the surrounding infrastructure and development. Impacts would be less than significant.

PUBLIC PLAZA

The project would replace the existing entrance to the pier with a new public plaza, which would include a restroom, bicycle lockers, free-standing concrete public seating, and landscaping (See Figure 2-6 in Chapter 2, *Project Description*). The public restroom would be located in the southeastern portion of the plaza, and would be approximately 18 feet long, 8 feet wide, and 10 feet high. Landscaping in the plaza would include low shrubs and small trees, and preserve the existing “Guardian” sculpture, which would be moved slightly north to be centered in the reconfigured median. The proposed project would include removal of existing vegetation and trees in the vicinity of the plaza. While the presence of mature trees is a characteristic feature in the plaza vicinity, most of those identified for removal are in poor health, and additional trees of species appropriate to this location would be planted throughout the landscape.

The proposed restroom and landscaped trees and other vegetation would intermittently interrupt views of the Bay; however, the proposed landscape is designed to frame views, enhance viewer experience (i.e. by creating shade), and screen and soften the presence of the restroom and bike lockers. Additionally, the creation of a wide-open plaza at the waterfront would increase the availability of public scenic views at this location. While the proposed project would result in visual

changes to this area, the proposed plaza would provide an increased quality and availability of public views in the vicinity and would be designed and implemented in adherence to the City's goals, policies, and development review criteria related to the maintenance and enhancement of visual character.

UNIVERSITY AVENUE

As part of the proposed project, University Avenue would be repaved and restriped between Marina Boulevard and Seawall Drive. Existing sidewalks along this segment of University Avenue would be repaired/replaced within their existing footprint as needed. Additionally, as shown in Figure 2-7 through 2-10, a new 12-foot-wide cycle track along University Ave would connect between Marina Boulevard and Seawall Drive. Bus infrastructure including a relocated bus stop, a bus loading island on the south south of University, a passenger drop-off zone on the north side of University Avenue, and additional passenger loading zones would also be installed. Circulation for vehicles on University Avenue would remain the same and vehicles would be able to continue to access the Berkeley Waterfront in the same manner. As described in Section 2, *Project Description*, the typical existing cross section for University Avenue includes an approximately 40-feet wide roadway with approximately 7-feet wide sidewalks on each side; whereas the proposed updates would include an approximately 25-foot wide roadway, 3-foot buffer, and 12-foot wide cycle track, with approximately 7-feet wide sidewalks on each side. The proposed project would include removal of existing vegetation and trees in the median at the intersection of University Avenue and Seawall Drive. While the presence of mature trees is a characteristic feature of this intersection, most of those identified for removal are in poor health, and additional trees of species appropriate to that location would be planted throughout the landscape.

The proposed updates would change the vehicle-oriented character of the University Avenue corridor to be more aligned with a slower-paced cyclist and pedestrian-scale environment, while maintaining the functionality of the roadway. The proposed changes to University Avenue would be compatible with existing uses and enhance the availability of public scenic views of the waterfront to a wider range of viewers, and would be designed and implemented in adherence to the City's goals, policies, and development review criteria related to the maintenance and enhancement of visual character. For these reasons, impacts would be less than significant.

SEAWALL DRIVE

As part of the proposed project, circulation for vehicles on Seawall Drive would remain the same; however, the alignment of Seawall Drive roadway and the parking lane on the western side would be shifted eastward by 18-20 feet, and repaved and restriped (see Figures 2-11, 2-12, and 2-13 in Section 2, *Project Description*). South of the pier and along Seawall Drive, a portion of the Bay Trail Extension would also be implemented. Interpretive and educational signs, picnic tables, benches and seating, bicycle parking, and the City would implement safety measures to create a barrier between vehicles and pedestrians (such as boulders, bollards, fence or guardrail). Similar to University Avenue, the proposed changes along Seawall Drive would be compatible with existing uses and enhance the availability of public scenic views of the waterfront to a wider range of viewers, and would be designed and implemented in adherence to the City's goals, policies, and development review criteria related to the maintenance and enhancement of visual character.

The proposed project includes the removal of the existing asphalt and concrete, streetlights, and vegetation, including the vegetated parking islands and the berm at the Seawall Drive parking lot. As shown in Figure 3.1-7, the trees located at the parking lot, including on the berm, would be

removed. While the presence of mature trees is a characteristic feature of the Seawall Drive corridor, most of those identified for removal are in poor health, and additional trees of species appropriate to that location would be planted throughout the landscape. The proposed parking lot would include safety lighting and landscaped areas. Above-ground solar panels mounted on a canopy structure, approximately 14 feet in height, would provide shade coverage over designated parking areas.

As shown in Figure 3.1-7, the existing shoreline is characterized by natural elements; specifically, the mature tree canopy provides a soft, variable tree line which largely dominates the view as it contrasts against the sky. The proposed solar panels over the parking area present a distinct, solid horizontal line against the sky that is generally only visible from KVP 4; all other viewpoints discussed herein lack prominent views of the proposed solar panels due to their location and angle of view. Distant structures and development across the Bay are vaguely visible through the series of vertical lines created by the solar support columns. The solar shade structures introduce new linear elements and repetitive architectural forms, replacing previously organic shapes and softened skyline with geometric forms and engineered materials. The proposed redevelopment of this area introduces more distinct built elements that would contrast with the existing naturalized features. While the proposed project would result in visual changes to this area, the proposed updates to the Seawall Drive parking lot would be compatible with existing uses, would enhance the site's functionality while incorporating clean energy solutions, and would be designed and implemented in adherence to the City's goals, policies, and development review criteria related to the maintenance and enhancement of visual character, while also aligning with the City's renewable energy goals. For these reasons, impacts would be less than significant.

ZONING AND REGULATIONS GOVERNING SCENIC QUALITY

The project site has a Berkeley General Plan land use designation of Waterfront/Marina and a zoning designation of Unclassified (U), with existing land uses within the project area including recreation, restaurant, marina, and transportation uses (roadways and surface parking).

The proposed project is designed to integrate within existing land uses on site and in the vicinity; thus, the project would not conflict with existing zoning or land uses. As required by City's General Plan (e.g. Policy UD-23, Policy LU-4) and the San Francisco Bay Plan, the project would undergo design review to ensure that the project is well designed, visually coherent and cohesive with its surroundings, does not obscure or block access to scenic views, and is consistent with the visual character of the waterfront area. Furthermore, the proposed improvements to existing facilities and infrastructure would be consistent with the guiding principles of the Berkeley Marina Master Plan and the San Francisco Bay Plan, which seek to minimize the visual impacts of existing restrooms, parking, and other amenities to emphasize views of the Bay, waterfront, and pier. The proposed project would be implemented in adherence to the scenic quality and visual character requirements and guidelines of the Berkeley General Plan, Berkeley Marina Master Plan, Berkeley Municipal Code, and the San Francisco Bay Plan. Therefore, operation of the proposed project would not conflict with applicable zoning and other regulations governing scenic quality, and no impact would occur.

SUMMARY

Overall, operational impacts related to visual character and consistency with applicable zoning and other regulations governing scenic quality would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

New Source of Light or Glare

Significance Criterion d:	Would the proposed project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Impact AES-4 CONSTRUCTION OF THE PROPOSED PROJECT WOULD NOT CREATE A NEW SOURCE OF SUBSTANTIAL LIGHT OR GLARE. OPERATION OF THE PROPOSED PROJECT WOULD RESULT IN SOURCES OF LIGHT AND GLARE FROM OVERHEAD LIGHT FIXTURES AND SAFETY AND WAYFINDING LIGHTING. HOWEVER, OPERATIONAL LEVELS OF LIGHT AND GLARE WOULD BE MINOR, SIMILAR TO EXISTING CONDITIONS, AND ALL LIGHTING ASSOCIATED WITH THE PROJECT WOULD DESIGNED WITH DARKSKY APPROVED FIXTURES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Construction

Sources of nighttime light and daytime glare associated with project construction, such as vehicular headlights and safety lighting and glare off the equipment, would be limited and temporary.

Project construction activities would take place between the hours of 7:00 A.M and 7:00 P.M. on weekdays and 9:00 A.M. and 8:00 P.M. on weekends and holidays, in compliance with the City of Berkeley's Municipal Code. Construction activities would primarily occur during the daytime, limiting potential for construction-related, temporary nighttime lighting impacts. However, nighttime work may be required for pile driving, and these activities will require lighting for safety. Staging yards may also be lit for security. The number of nights for nighttime work is not expected to exceed 50 nights. Nighttime lighting required for project construction would be limited to individual work areas and would be temporary in nature. There is the potential for construction lighting to affect nearby houseboat residents or occupants, resulting in a potentially significant impact. Mitigation Measure AES-1 would require that all temporary lighting would be shielded and directed downward and inward (toward the work or staging area). With implementation of shielded, downward and project-facing lighting, temporary impacts of nighttime light and glare during construction activities would not create any new source of substantial light that would adversely affect daytime or nighttime views in the area. Impacts would be less than significant with mitigation.

Furthermore, as required by Berkeley Municipal Code Chapter 16.12.020, obstructions and excavated areas potentially accessible to the public would be marked with flashing yellow beacons from sunset to sunrise for safety during construction activities, or until the obstruction or hazard is removed. These beacons would create a source of lighting but would be limited to individual work areas and temporary in nature, and thereby would not create a substantial new source of light or glare. Therefore, construction light and glare impacts related to construction of the proposed project would be less than significant.

Operation

The proposed project would include the following lighting features:

- Wayfinding signage lighting along University Avenue, Seawall Drive, and the proposed Bay Trail Extension
- Lighting at the Seawall Drive parking lot
- Lighting on the new pier, breakwater, gangways, and floats
- Lighting at the new public plaza

Down-cast LED lights would be placed approximately every 50-feet along the Pier and Breakwater on 16-foot tall poles. The pier canopy structure would be fitted with LED linear downlights attached to the roof and wall sconces attached to the columns. Stainless steel guardrails on the pier would contain LED handrail point lighting aimed at the deck, which would also to be used for emergency egress lighting. A solar-powered marine signal light would be installed on the float. Emergency LED path of egress lighting would also be installed on the central inverter.

Furthermore, lighting would be photocell-controlled area lighting in compliance with Illuminating Engineering Society (IES) and DarkSky recommendation[10] to minimize glare, reduce light trespass, and avoid light pollution. With utilization of DarkSky approved light fixtures, operational impacts related to new sources of light would be less than significant.

It is not anticipated that significant operational daytime glare would occur from proposed project structures (e.g. pier, breakwater, ferry infrastructure), given the lack of reflective materials in the proposed facility. While the surface of water is reflective, this would not be a change from existing conditions and, thus, would not introduce new sources of daytime glare. Potential glare resulting from Bay water would appear similar in character to existing, surrounding Bay water at the project site. Therefore, operational glare impacts related to new sources of glare would be less than significant.

Mitigation Measures

MITIGATION MEASURE AES-1: REDUCE NIGHT LIGHTING DURING CONSTRUCTION OF FACILITIES

Night lighting for construction activities, staging areas and other areas used for construction shall be the minimum necessary to ensure safety and security for nighttime activities and operations. As part of planning and project implementation, the City or its contractor(s) shall ensure nighttime lighting used for construction is shielded and oriented downwards toward the work area(s) to reduce off-site light spill during nighttime construction activities. Lighting at the project site shall consist of light-emitting diode lights in all areas where nighttime construction activities will occur and be either motion-activated or use timers to ensure safety and security and reduce the impact of nighttime light pollution. Furthermore, all lighting would be designed in compliance with Illuminating Engineering Society (IES) and DarkSky recommendations. The City of Berkeley shall verify that this mitigation measure is included in the project's final construction specifications prior to the initiation of construction activities.

Level of Significance

Less Than Significant with Mitigation

[10] DarkSky International. 2025. DarkSky Approved Luminaires. Available: https://darksky.org/app/uploads/2025/04/DarkSky-Luminaires-program-packet-V3-2025-3.pdf (accessed December 2025)

3.1.5 Cumulative Impacts

The cumulative setting for potential aesthetics and visual quality impacts encompasses the City of Berkeley and areas of the Bay from which the project site is visible. This geographic scope is appropriate due to the project's proximity to various visual resources and planned development. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*) in addition to the proposed project. Cumulative impacts regarding aesthetics may occur if any of the related cumulative projects are located in close enough proximity to the project site to combine with the proposed project and result in significant adverse changes in the visual quality and character of the surrounding area.

Scenic Vistas and Visual Character

Cumulative projects located west of I-80 could result in impacts on public viewsheds or scenic vistas depending on the proposed massing and heights of structures and the proximity to comparable structures or facilities.

As required by existing City regulations, cumulative projects, including the maximum development potential associated with the Draft Waterfront Specific Plan would undergo design review to maintain consistent building heights and siting and would be required to adhere to the scenic quality requirements and guidelines of the Berkeley General Plan, Berkeley Marina Master Plan, Berkeley Municipal Code, and the San Francisco Bay Plan. For example, the existing former restaurant building at 199 Seawall Drive is located near the project site and is visible in the visual simulation for KVP 4, as shown in Figure 3.1-7 (see left side of the photograph). The improvements at 199 Seawall Drive are currently unknown but could include changes to the exterior, additional square feet, and additional height. As shown in Figure 3.1-7, the 199 Seawall Drive building represents a small part of the scenic views of the Bay, and there are ample views of the Bay. In addition, this cumulative project, like all other cumulative projects in the vicinity of the proposed project, would be required to adhere to the scenic quality requirements and guidelines of the Berkeley General Plan, Berkeley Marina Master Plan, Berkeley Municipal Code, and the San Francisco Bay Plan. Compliance with these existing regulations would protect public viewsheds and vistas, and cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to public viewsheds and vistas.

As planned development occurs in the future, the overall visual environment of the Berkeley Waterfront may change. Planned improvements to infrastructure, recreational facilities, and ferry services may alter the waterfront's visual character by introducing modern materials and designs. Compliance with Berkeley General Plan, Berkeley Marina Master Plan, Berkeley Municipal Code, and the San Francisco Bay Plan policies and standards for the protection of visual resources, compatible design for new development, and maintaining visual character would allow cumulative development of the Berkeley Waterfront that does not adversely affect the existing visual environment. Cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to changes in the visual environment.

Scenic Resources within State Scenic Highways

Because the project results in no impact on scenic resources within a State scenic highway, the project would not result in a cumulatively considerable contribution to a cumulative impact.

Light and Glare

Infill residential projects east of I-80 would potentially intensify lighting in developed areas. In addition, cumulative projects located west of I-80 that would introduce new lighting, such as the maximum development potential in the Draft Waterfront Specific Plan, including the potential new restaurant at the existing building at 199 Sewall Drive, could result in new sources of light and glare that would be visible from viewpoints on or across the Bay, as well as roads and public areas along the Berkeley Waterfront. Additionally, hillside viewpoints (such as those at Grizzly Peak and Stonewall Panoramic Trail) looking down onto the city and the Bay may experience nighttime lighting becoming more visible or prominent, covering a larger area and/or appearing in new areas as a result of cumulative development.

Compliance with Municipal Code policies and regulations would minimize the creation of any substantial new sources of light and glare in the region from planned or pending development projects. Specifically cumulative projects would be required to comply with the California Building Standards Code, which includes lighting standards for buildings. For these reasons, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to light and glare.

Overall Level of Cumulative Significance

Less Than Significant

3.2 Air Quality

3.2.1 Introduction

This section describes existing air quality conditions regionally and within the City of Berkeley as well as the relevant regulatory framework. This section also analyzes the potential impacts related to air quality (specifically with regard to emissions of criteria pollutants and toxic air contaminants) that could result from implementation of the proposed project. Information included in this section is based on information from the Bay Area Air District and the air quality modeling outputs included in Appendix B to this EIR.

3.2.2 Environmental Setting

Climate and Topography

Berkeley is located in Alameda County, a subregion of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB includes the Counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County. Due to the proximity of San Francisco Bay and the Pacific Ocean, the climate in the SFBAAB is characterized by warm dry summers and cool moist winters. The average annual maximum and minimum temperature in Berkeley is 64.9- and 49.2-degrees Fahrenheit, respectively. The average annual rainfall is 23.41 inches.[1]

Berkeley's topography is characterized by a rolling sedimentary plain that gently rises from sea level to the base of the Berkeley Hills. The Berkeley Hills are part of the Pacific Coast Ranges and run northwest to southeast. Berkeley is generally bounded urban development to the north and south, the Oakland Hills to the east, and the San Francisco Bay to west.

The major large-scale weather feature controlling climate in the Air Basin is a large high-pressure system located in the eastern Pacific Ocean, known as the Pacific High. During winter months, marine air trapped in the lower atmosphere is often condensed into fog by the cool Pacific Ocean. Stratus-type clouds usually form offshore and move into the area during the evening hours. During winter months, the Pacific High becomes weaker and shifts south, allowing weather systems associated with the polar jet stream to affect the region. Low pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. High-pressure systems are also common in winter, with low-level inversions that produce cool stagnant conditions.

A primary factor in air quality is the mixing depth (the vertical air column available for dilution of contaminant sources). Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This is caused by most of the sun's energy being converted to sensible heat at the ground, which in turn warms the air at the surface. The warm air rises in the atmosphere, where it expands and cools. Sometimes, however, the temperature of air actually increases with height. This condition is known as temperature inversion because the temperature profile of the atmosphere is "inverted" from its usual state. Over the SFBAAB, the frequent occurrence of temperature inversions limits mixing depth and, consequently, limits the availability of air for dilution.

[1] Western Regional Climate Center. 2025. Berkeley, California (040693) Period of Record Monthly Climate Summary. Available: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0693 (accessed August 2025).

The nearest meteorological monitoring station to the project site is the Berkeley, California monitoring station[2]. The warmest month of the year is September, and the coldest month of the year is January. Rainfall is concentrated in the winter months.

Air Pollutant Types, Sources, and Effects

Air pollutant emissions in the SFBAAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are distributed widely and include those such as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be operated legally on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles.[3]

Criteria Air Pollutants

Concentrations of criteria air pollutants are used as indicators of air quality conditions. Air pollutants are termed criteria air pollutants if they are regulated by developing specific public health and welfare-based criteria as the basis for setting permissible levels. According to the United States Environmental Protection Agency (USEPA), criteria air pollutants are ozone (O_3), particulate matter (PM) equal to or less than 10 microns in diameter (PM_{10}), PM equal to or less than 2.5 microns in diameter ($PM_{2.5}$), nitrogen dioxide (NO_2), carbon monoxide (CO), lead, and sulfur dioxide (SO_2).

Federal and state Ambient Air Quality Standards have been established for six criteria pollutants: O_3, CO, nitrogen dioxide, SO_2, $PM_{10,}$ $PM_{2.5}$, and Lead, which can be harmful to public health and the environment. The Clean Air Act (CAA) identifies two types of national ambient air quality standards.[4] Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.[5]

Table 3.2-1 provides a summary of the types, sources, and effects of these criteria air pollutants of national and California concern.

[2] Western Regional Climate Center. 2025. Berkeley, California (040693) Period of Record Monthly Climate Summary. Available: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0693 (accessed August 2025).
[3] Bay Area Air District. 2022. CEQA Thresholds and Guidelines Update. Available: https://www.baaqmd.gov/?sc_itemid=CDA5FAE5-BBDC-4337-A10C-5648BCD2D71F (accessed August 2025)
[4] An air quality standard is defined as “the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harming public health”. CARB. 2025. California Ambient Air Quality Standards. Available: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards (accessed August 2025).
[5] USEPA. 2025. NAAQS Table. Available: https://www.epa.gov/criteria-air-pollutants/naaqs-table (accessed August 2025).

Table 3.2-1 Description of Criteria Air Pollutants of National and California Concern

Criteria Air Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Ozone (O_3)	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), nitrous oxides (NO_X), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.
Particulate matter (PM_{10}) Particulate matter ($PM_{2.5}$)	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (one micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.	▪ Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. ▪ Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.
Nitrogen dioxide (NO_2)	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contributions to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
Carbon monoxide (CO)	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.

Criteria Air Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Sulfur dioxide (SO_2)	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.
Lead	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.

Sources: Bay Area Air District. 2025. Pollutant Glossary. Available: http://baaqmd.gov/en/about-air-quality/glossary (accessed (September2025).; California Environmental Protection Agency. 2002. Latest Findings on National Air Quality. Available: https://www.epa.gov/sites/default/files/2017-11/documents/trends_brochure_2002.pdf#:~:text=Six%20Principal%20Pollutants%20EPA%20has%20set%20national,(PM)%2C%20carbon%20monoxide%20(CO)%2C%20and%20lead%20(Pb) (accessed September 2025); California Air Resources Board. 2025. What Are Criteria Air Pollutants. Available: https://ww2.arb.ca.gov/criteria-pollutants(accessed September 2025); United States Environmental Protection Agency. 2025 Criteria Air Pollutants. Available: https://www.epa.gov/criteria-air-pollutants (accessed September2025); National Toxicology Program. 2004. Lead and Lead Compounds. Available: https://ntp.niehs.nih.gov/sites/default/files/ntp/roc/content/profiles/lead.pdf (accessed September 2025).

Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used as indicators of air quality conditions. TACs are defined as air pollutants that may cause or contribute to an increase in mortality or serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at very low concentrations. TACs can cause long-term health effects (such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) or short-term acute effects (such as eye watering, respiratory irritation, runny nose, throat pain, or headaches). For those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which some adverse health impacts are not expected to occur. This contrasts with the criteria pollutants such as NO_2 and carbon dioxide (CO_2) for which acceptable levels of

exposure can be determined and for which the State and federal governments have set ambient air quality standards.

TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to a particular TAC. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Cancer risk is typically expressed as excess cancer cases per million exposed individuals, typically over a lifetime exposure or other prolonged duration. For noncarcinogenic substances, there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels may vary depending on the specific pollutant. Acute and chronic exposure to noncarcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to an acceptable reference exposure levels.

To date, the California Air Resources Board (CARB) has designated nearly 200 compounds as TACs. CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, the most important being diesel particulate matter (DPM) from diesel-fueled engines. Common TACs of national and California concern include: DPM, volatile organic compounds (VOCs), benzene, asbestos, hydrogen sulfide, sulfates, visibility-reducing particulates, vinyl chloride, and lead. Table 3.2-2 provides a summary of these types, sources, and effects of TACs of national and California concern.

Table 3.2-2 Description of Toxic Air Contaminants of National and California Concern

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Diesel Particulate Matter (DPM)	Diesel PM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.	Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Volatile Organic Compounds (VOCs)	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding CO, CO_2, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.	Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.
Benzene	Benzene is a VOC. It is a clear or colorless light-yellow, volatile, highly flammable liquid with a gasoline-like odor. The EPA has classified benzene as a "Group A" carcinogen.	Benzene is emitted into the air from fuel evaporation, motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is used as a solvent for paints, inks, oils, waxes, plastic, and rubber. Benzene occurs naturally in gasoline at one to two percent by volume. The primary route of human exposure is through inhalation.	Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.
Asbestos	Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite.	Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.	Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present.
Hydrogen Sulfide	Hydrogen sulfide is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Sulfates	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-} Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.
Visibility-reducing Particles	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.	▪ Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. ▪ Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.
Vinyl Chloride	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, CARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.
Lead	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.

Sources: Bay Area Air District 2024. *Toxic Air Contaminants*. https://www.baaqmd.gov/en/about-air-quality/emission-inventory/toxic-air-contaminants (September 2025); California Environmental Protection Agency Office of Environmental Health Hazards. 2025. *Toxic Air Contaminants* https://oehha.ca.gov/air/toxic-air-contaminants (August 2025); California Air Resources Board. 2025. *CARB Identified Toxic Air Contaminants. https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants* (August 2025); United States Environmental Protection Agency. 2025. *About Hazardous Air Pollutants. https://www.epa.gov/haps/about-hazardous-air-pollutants.* (August 2025); National Toxicology Program 2004. Lead and Lead Compounds. Available: https://ntp.niehs.nih.gov/sites/default/files/ntp/roc/content/profiles/lead.pdf (accessed September2025).

Air Quality

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality.

Regional

California is divided geographically into 15 air basins for managing the air resources of the State on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. If an air basin is not in either federal or State attainment for a particular pollutant, the basin is classified as a nonattainment area for that pollutant. Under the federal and State CAA, once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas. The project site is within Alameda County, which currently exceeds the National Ambient Air Quality Standards (NAAQS) for 8 and 1-hour O3, and PM2.5. Alameda County is currently classified as a nonattainment area under the California Ambient Air Quality Standards (CAAQS) for O3, PM2.5, and PM10.

The City of Berkeley is located in the SFBAAB, which is under the jurisdiction of Bay Area Air District.[6] The Bay Area Air District operates a network of air quality monitoring stations throughout the SFBAAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and to determine whether ambient air quality meets the NAAQS and CAAQS.

Project Site

The monitoring station closest to the project site is the Berkeley-Aquatic Park monitoring station, located at 1 Bolivar Drive in Berkeley, approximately 1.5 miles southeast of the project site. The Berkeley-Aquatic Park station collected 1-hour and 8-hour O_3, NO_2, and $PM_{2.5}$ concentrations between 2022 and 2024. As data for PM_{10} is not available for this station, data from the San Francisco-Arkansas Street Station was used as a proxy.

Table 3.2-3 indicates the number of days that each of the federal and State standards has been exceeded at the monitoring station near the project site in each of the last three years for which data is available. As shown, no State or federal standards were exceeded at the Berkeley-Aquatic Park monitoring station.

[6] Bay Area Air District is formerly the Bay Area Air Quality Management District.

Table 3.2-3 Ambient Air Quality Monitoring Data Proximate to Project Site

Pollutant	2022	2023	2024
Ozone (ppm), Worst 1-Hour[1]	*	0.054	*
Number of days of State exceedances (>0.09 ppm)	0	0	*
Ozone (ppm), 8-Hour Average[1]	*	0.044	*
Number of days of State exceedances (>0.07 ppm)	0	0	*
Number of days of Federal exceedances (>0.07 ppm)	0	0	*
Nitrogen Dioxide, Worst 1-Hour[1]	0.0508	0.0462	0.0319
Number of days above CAAQS (>0.180 ppm)	0	0	0
Number of days above CAAQS (>0.180 ppm)	0	0	0
Particulate Matter <10 microns, μg/m^3, Worst 24 Hours[2]	34.2	43.8	*
Number of days above State standard (>50 μg/m^3)	0	0	0
Number of days above Federal standard (>150 μg/m^3)	0	0	0
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours[1]	*	17.2	8.5
Number of days above Federal standard (>35 μg/m^3)	0	0	0

ppm = parts per million; μg/m^3 = micrograms per cubic meter; * = concentration data not available

[1] Measurements taken from the Berkeley-Aquatic Park Station

[2] Measurements taken from the San Francisco-Arkansas Street Station

Source: CARB. 2025. iADAM: Air Quality Data Statistics. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php (accessed August 2025).

MOBILE EMISSIONS

The primary source of mobile air pollutants (both criteria air pollutant and TACs) in the vicinity of the project site is motor-related vehicle trips associated with nearby vehicle use along I-80 as well as local residential, commercial, institutional, and recreational uses.

STATIONARY EMISSIONS

The primary source of stationary air pollutants (both criteria air pollutant and TACs) in the vicinity of the project site is building-related energy use associated with the operation of watercrafts around the pier as well as local residential, commercial, and semi-public and institutional uses. Other sources of stationary emissions include landscape maintenance, and consumer products from these uses. Within 0.25 miles of the project site, there are 9 facilities regulated by the Bay Area Air District.[7]

Air Pollution Sensitive Receptors

Sensitive Receptor Types

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects related to air pollutants exposure than others. Land uses such as residences, schools, day care centers, hospitals, nursing and convalescent homes, and parks are considered to be the most sensitive to poor air quality, because the population groups

[7] Bay Area Air District. 2025. Interactive Data Maps. June 9. Available: https://www.baaqmd.gov/about-air-quality/interactive-data-maps (accessed August 2025).

associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. The Bay Area Air District defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, day care centers, hospitals, and senior-care facilities.

Sensitive Receptors at and Proximate to Project Site

There are no sensitive receptors located within the project site; however, sensitive receptors are located near or adjacent to the project site and include the following: Marina Mall, Adventure Playground, Shorebird Park/Playground, the live-aboard boats within the Berkeley Marina, Horseshoe Park, and McLaughlin Eastshore State Park.[8] Sensitive receptors near the project site are shown in Figure 3.2-1.

[8] Cesar Chavez Park is not included as a sensitive receptor, because it is located more than 1,300 feet from the closest point of the project site. While sensitive individuals may be at the location for several hours on any given day, their exposure to pollutants would be minimal at this distance. Sensitive receptors are only considered within 1,000 feet of a project site. Any individual living in the house boats that could also be exposed at Cesar Chavez Park would have that potential risk covered in the conservative health risk analysis from living within 1,000 feet of the project site, as it is assumed residents are exposed for the maximum duration during a construction period.

Figure 3.2-1 Sensitive Receptors Locations



Imagery provided by Microsoft Bing and its licensors © 2026.
Additional data provided by City of Berkeley, 2024; CPAD, 2024.

23-15427 EPS TechStudy
Fig 2 Localized Study Area and Sensitive Receptors

3.2.3 Regulatory Framework

Federal Regulations

Clean Air Act and National Ambient Air Quality Standards

The CAA was enacted in 1970 and amended in 1977 and 1990 (42 United States Code [USC] 7401) for the purpose of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, to achieve the purposes of Section 109 of the CAA [42 USC 7409], the USEPA developed primary and secondary NAAQS.

The primary NAAQS "in the judgment of the Administrator[9], based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health," and the secondary standards are to "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" (42 USC 7409[b][2]). The USEPA classifies specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the NAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. State plans also must control emissions that drift across state lines and harm air quality in downwind states. Table 3.2-4 lists the current federal standards for regulated pollutants.

To derive the NAAQS, the USEPA reviews data from integrated science assessments and risk/exposure assessments to determine the ambient pollutant concentrations at which human health impacts occur, then reduces these concentrations to establish a margin of safety. As a result, human health impacts caused by the air pollutants discussed above may affect people when ambient air pollutant concentrations are at or above the concentrations established by the NAAQS. The closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant. Accordingly, ambient air pollutant concentrations below the NAAQS are considered to be protective of human health.[10,11] The NAAQS and the underlying science that forms the basis of the NAAQS are reviewed every five years to determine whether updates are necessary to continue protecting public health with an adequate margin of safety.[12]

[9] The term "Administrator" means the Administrator of the USEPA.
[10] USEPA. 2025. NAAQS Table. Available: https://www.epa.gov/criteria-air-pollutants/naaqs-table (accessed August 2025).
[11] CARB. 2025. California Ambient Air Quality Standards. Available: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards (accessed August 2025).
[12] USEPA. 2015. Overview Of EPA's Updates to the Air Quality Standards for Ground-Level Ozone. Available: https://www.epa.gov/sites/default/files/2015-10/documents/overview_of_2015_rule.pdf (accessed August 2025).

Table 3.2-4 Federal and State Ambient Air Quality Standards

Pollutant	NAAQS	CAAQS
Ozone	0.070 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.070 ppm (8-hr avg)
Carbon Monoxide	35.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)	20.0 ppm (1-hr avg) 9.0 ppm (8-hr avg)
Nitrogen Dioxide	0.100 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg) 0.5 ppm (3-hr avg) 0.14 ppm (24-hr avg) 0.030 ppm (annual avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	0.15 mg/m^3 (rolling 3-month avg) 1.5 mg/m^3 (calendar quarter)	1.5 mg/m^3 (30-day avg)
Particulate Matter (PM_{10})	150 mg/m^3 (24-hr avg)	50 mg/m^3 (24-hr avg) 20 mg/m^3 (annual avg)
Particulate Matter ($PM_{2.5}$)	35 mg/m^3 (24-hr avg) 9 mg/m^3 (annual avg)	12 mg/m^3 (annual avg)
Visibility-Reducing Particles	No Federal Standards	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. (8-hr avg)
Sulfates	No Federal Standards	25 mg/m^3 (24-hr avg)
Hydrogen Sulfide	No Federal Standards	0.03 ppm (1-hr avg)
Vinyl Chloride	No Federal Standards	0.01 ppm (24-hr avg)

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; avg = average; µg/m^3 = micrograms per cubic meter

Source: CARB. 2025. California Ambient Air Quality Standards. Available: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards (accessed August 2025).

General Conformity Regulations

Established under the CAA section 176(c)(4)), the General Conformity regulations (40 Code of Federal Regulations part 93 subpart B), play an important role in helping States and Tribes to protect air quality within those areas that do not meet the NAAQS (nonattainment areas) and areas of vulnerable air quality (maintenance areas). Under the General Conformity regulations, federal agencies must work with state, Tribal and local agencies and governments with authority and jurisdiction over nonattainment or maintenance areas to ensure that emissions caused by federal actions conform to the air quality plans established within the applicable implementation plan. The purpose of the General Conformity rule is to ensure that:

- Federal activities do not cause or contribute to new violations of NAAQS;
- Actions do not worsen existing violations of NAAQS; and
- Attainment of NAAQS is not delayed.

The General Conformity rule would apply to this project if the project receives federal funding and is subject to the National Environmental Policy Act.

Federal Fuel Efficiency Standard (CAFÉ)

Under the CAA, corporate average fuel economy standards have been set for passenger cars and light trucks.

Construction Equipment Fuel Efficiency Standard

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, USEPA established emission standards for hydrocarbons, NO_X, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by USEPA, as well as by CARB. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

State Regulations

California Air Quality Control Plan (State Implementation Plan)

A State Implementation Plan or SIP is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for California is administered by CARB, which has overall responsibility for Statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts—an air district prepares their federal attainment plan, which is sent to CARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emissions inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional State and local regulation is required to achieve the standards.

California Clean Air Act and California Ambient Air Quality Standards

The California CAA, signed into law in 1988, requires all areas of the State to make incremental progress toward the achievement of the CAAQS. CARB is the State air pollution control agency and is a part of the California Environmental Protection Agency. CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California, and for implementing the requirements of the California CAA. CARB oversees local district compliance with federal and California laws, approves local air quality plans, submits the State implementation plans to the USEPA, monitors air quality, determines and updates State area designations and maps, and sets emissions standards for new mobile sources and off-road vehicles pursuant to California waiver and authorization requests, consumer products, small utility engines, and fuels.

The California CAA requires CARB to establish ambient air quality standards for California, known as CAAQS. Similar to the NAAQS, CAAQS have been established for criteria pollutants and standards are established for vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates. In

general, the CAAQS are more stringent than the NAAQS on criteria pollutants. The California CAA requires all local air districts to endeavor to make incremental progress toward attaining the CAAQS. The California CAA specifies that local air districts focus attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources as long as the regulations do not infringe on local land use authority.

In 2017, CARB released a technical advisory on reducing air pollution exposure from near high-volume roadways that is a technical supplement to CARB's air quality and Land Use Handbook: A Community Health Perspective. Since the publication of the handbook, research has demonstrated the public health, climate, financial and other benefits of compact, infill development along transportation corridors, and that exposures can be reduced with new strategies. As described in the technical advisory, California has implemented various measures to improve air quality and reduce exposure to roadway vehicle emissions. These include the Diesel Risk Reduction Plan, which aims to reduce particulate matter emissions from diesel vehicles. The continued electrification of California's vehicle fleet would also reduce $PM_{2.5}$ levels, and ongoing efforts to reduce emissions from cars and trucks and to move vehicles towards "zero emission" alternatives will continue to drive down roadway vehicle pollution.

California Health and Safety Code Section 39655 and California Code of Regulations Title 17 Section 93000 (Substances Identified as Toxic Air Contaminants)

CARB identifies substances as TACs as defined in Health and Safety Code Section 39655 and listed in Title 17, Section 93000 of the California Code of Regulations, "Substances Identified as Toxic Air Contaminants." A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those TACs that may cause cancer, there are thresholds set by regulatory agencies below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards. According to the California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs for the State of California can be attributed to relatively few compounds, the most important of which is DPM from diesel-fueled engines.

California Low-Emission Vehicle Program

CARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals in the 1994 State Implementation Plan. In 2012, CARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.

California On-Road Heavy-duty Vehicle Program

CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

California Airborne Toxics Control Measure for Asbestos

CARB has adopted Airborne Toxics Control Measures for sources that emit a particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology to minimize emissions. In July 2001, CARB approved an Air Toxic Control Measure for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices or BMPs to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where asbestos is present. Both CARB and the Air District have rules and regulations regarding the demolition of building containing asbestos. CARB Asbestos National Emissions Standards for Hazardous Air Pollutants is designed to minimize the release of asbestos fibers during renovation or demolition activities.

Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present. Berkeley is located in an area not likely to contain naturally occurring asbestos.

Verified Diesel Emission Control Strategies

USEPA and CARB tiered off-road emission standards only apply to new engines and off-road equipment can last several years. CARB has developed Verified Diesel Emission Control Strategies (VDECS), which are devices, systems, or strategies used to achieve the highest level of pollution control from existing off-road vehicles, to help reduce emissions from existing engines. VDECS are designed primarily for the reduction of diesel PM emissions and have been verified by CARB. There are three levels of VDECS, the most effective of which is the Level 3 VDECS. Tier 4 engines are not required to install VDECS because they already meet the emissions standards for lower tiered equipment with installed controls.

California Diesel Risk Reduction Plan

CARB Diesel Risk Reduction Plan has led to the adoption of new state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), also known as the Hot Spots Act. To date, CARB has identified more than 21 TACs and has adopted the USEPA list of HAPs as TACs.

Carl Moyer Memorial Air Quality Standards Attainment Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), a partnership between CARB and local air districts, issues grants to replace or retrofit older engines and equipment with engines and equipment that exceed current regulatory requirements to reduce air pollution. Money collected through the Carl Moyer Program complements California's regulatory program by providing incentives to effect early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately affected by air pollution. The program has established guidelines and criteria for the funding of emissions reduction projects. Within the SFBAAB, the Bay Area Air District administers the Carl Moyer Program. The program establishes cost-effectiveness criteria for funding emission reductions projects, which under the final 2017 Carl Moyer Program Guidelines are $30,000 per weighted ton of NO_X, ROG, and PM.

California Code of Regulations

The California Code of Regulations is the official compilation and publication of the regulations adopted, amended, or repealed by state agencies pursuant to the Administrative Procedure Act. They are compiled into Titles and organized into Divisions containing the regulations of state agencies. The following California Code of Regulations would be applicable to the proposed Project:

- **Engine Idling.** In accordance with Section 2485 of Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.
- **Emission Standards.** In accordance with Section 93115 of Title 17 of the California Code of Regulations, operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.
- **Appliance Energy Efficiency Standards.** Title 20 of the CCR sets minimum efficiency standards for various appliances and equipment sold or offered for sale in California, including both federally-regulated and non-federally-regulated products.
- **Building Energy Efficiency Standards.** Title 24, Part 6 of the CCR sets mandatory energy conservation standards for both residential and non-residential buildings.
- **Green Building Standards.** Title 24, Part 11 of the CCR introduces planning and design standards for sustainable development, including for water efficiency, material conservation, and indoor air quality

Regional and Local Regulations

Bay Area Clean Air Plan

The Bay Area Air District is responsible for assuring that the federal and state ambient air quality standards are attained and maintained in the Bay Area. The Bay Area Air District is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities.

The Bay Area Air District adopted the *Bay Area Clean Air Plan: Spare the Air, Cool the Climate (Bay Area Clean Air Plan)* on April 19, 2017 as an update to the 2010 Clean Air Plan.[13] The 2017 Clean Air Plan, which focuses on protecting public health and the climate, defines an integrated, multi-pollutant control strategy that includes feasible measures to reduce emissions for four categories: ground-level ozone and its precursors, ROG and NO_X; PM (primarily $PM_{2.5}$, and precursors to secondary $PM_{2.5}$); TACs, and greenhouse gas emissions. The control measures are categorized based on the economic sector framework and include stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, and water. To protect public health, the control strategy will decrease population exposure to PM and TACs in communities that are most impacted by air pollution with the goal of eliminating disparities in exposure to air pollution between communities. The control strategy will also protect the climate by reducing greenhouse gas emissions and developing a long-range vision of how the Bay Area could look and function in a year 2050 post-carbon economy.

Bay Area Air District Particulate Matter Plan

To fulfill federal air quality planning requirements, the Bay Area Air District adopted a $PM_{2.5}$ emissions inventory for year 2010 and related $PM_{2.5}$ rules at a public hearing on November 7, 2012. This is the most current plan for particulate matter in the Air District. The Bay Area Clean Air Plan also includes several measures for reducing PM emissions from stationary sources and wood burning. On January 9, 2013, USEPA issued a final rule determining that the Bay Area has attained the 24-hour $PM_{2.5}$ NAAQS, suspending federal SIP planning requirements for the SFBAAB. Despite this USEPA action, the SFBAAB will continue to be designated as nonattainment for the national 24-hour $PM_{2.5}$ standard until the Bay Area Air District submits a redesignation request and a maintenance plan to USEPA, and USEPA approves the proposed redesignation.

The SFBAAB is in nonattainment for the federal PM_{10} and federal $PM_{2.5}$ standards. USEPA lowered the 24-hour $PM_{2.5}$ standard from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$ in 2006, and designated the Air Basin as nonattainment for the new $PM_{2.5}$ standard effective December 14, 2009.

On December 8, 2011, CARB submitted a "clean data finding" request to USEPA on behalf of the Bay Area. If the clean data finding request is approved, then USEPA guidelines provide that the region can fulfill federal $PM_{2.5}$ SIP requirements by preparing either a redesignation request and a $PM_{2.5}$ maintenance plan, or a "clean data" SIP submittal. Because peak $PM_{2.5}$ levels can vary from year to year based on natural, short-term changes in weather conditions, the Bay Area Air District believes that it would be premature to submit a redesignation request and $PM_{2.5}$ maintenance plan at this

[13] Bay Area Air District. 2017. Spare the Air: Cool the Climate. Final 2017 Clean Air Plan. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en (accessed August 2025).

time. Therefore, the Bay Area Air District will prepare a "clean data" SIP to address the required elements, including:

- An emission inventory for primary $PM_{2.5}$, as well as precursors to secondary PM formation; and
- Amendments to the Bay Area Air District New Source Review regulation to address $PM_{2.5}$.

Bay Area Air District Regulations

REGULATION 2, RULE 5 (NEW SOURCE REVIEW PERMITTING)

The Bay Area Air District regulates backup emergency generators, fire pumps, and other sources of TACs through its New Source Review (Regulation 2, Rule 5) permitting process. Although emergency generators are intended to be used only during periods of power outages, monthly testing of each generator is required; however, the Bay Area Air District limits testing to no more than 50 hours per year. Each emergency generator installed is assumed to meet a minimum of Tier 2 emission standards (before control measures). As part of the permitting process, the Bay Area Air District limits the excess cancer risk from any facility to no more than 10 per 1-million-population for any permits that are applied for within a 2-year period and would require any source that would result in an excess cancer risk greater than 1 per 1 million to install Best Available Control Technology for Toxics.

REGULATION 8, RULE 3 (ARCHITECTURAL COATINGS)

This rule governs the manufacture, distribution, and sale of architectural coatings and limits the reactive organic gases content in paints and paint solvents. Although this rule does not directly apply to the proposed project, it does dictate the ROG content of paint available for use during construction.

REGULATION 8, RULE 15 (EMULSIFIED AND LIQUID ASPHALTS)

Although this rule does not directly apply to the proposed project, it does limit the reactive organic gases content of asphalt available for use during construction through regulating the sale and use of asphalt and limits the ROG content in asphalt.

REGULATION 1, RULE 301 (ODOROUS EMISSIONS)

The Bay Area Air District enforces odor control by helping the public to document a public nuisance. Upon receipt of a complaint, the Bay Area Air District sends an investigator to interview the complainant and to locate the odor source if possible. The Bay Area Air District typically brings a public nuisance court action when there are a substantial number of confirmed odor events within a 24-hour period. An odor source with five or more confirmed complaints per year averaged over 3 years is considered to have a substantial effect on receptors. Several Bay Area Air District regulations and rules apply to odorous emissions. Regulation 1, Rule 301 is the nuisance provision that states that sources cannot emit air contaminants that cause nuisance to a number of persons. Regulation 7 specifies limits for the discharge of odorous substances where the Bay Area Air District receives complaints from 10 or more complainants within a 90-day period. Among other things, Regulation 7 precludes discharge of an odorous substance that causes the ambient air at or beyond the property line to be odorous after dilution with 4 parts of odor-free air, and specifies maximum limits on the emission of certain odorous compounds.

REGULATION 11, RULE 2 (ASBESTOS DEMOLITION, RENOVATION AND MANUFACTURING)

This Rule controls emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and establishes appropriate waste disposal procedures.

Plan Bay Area 2050

The ABAG/MTC Plan Bay Area 2050, adopted in October 2021 and last updated in November 2024, integrated transportation and land-use plans for the nine-county San Francisco Bay Area, including Alameda County. Plan Bay Area is considered the ABAG/MTC Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In accordance with SB 743, Plan Bay Area included elements designed to encourage the type of land-use development to meet three primary objectives. First, roadway level of service or LOS could not be considered an environmental impact under CEQA. Second, it introduced changes to Vehicle Miles Traveled per capita as a determinant of environmental impact. Third, the use of Vehicle Miles Traveled as an environmental impact in CEQA is considered a mechanism for achieving State and regional GHG reduction goals. As a regional land use plan, Plan Bay Area aims to reduce per-capita GHG emissions through the promotion of more compact, mixed-use residential and commercial neighborhoods located near transit.

Berkeley General Plan

LAND USE ELEMENT

The City of Berkeley Land Use Element includes the following policies relevant to air quality.

Policy LU-9. Non-Residential Traffic

Minimize or eliminate traffic impacts on residential areas from institutional and commercial uses through careful land use decisions.

Policy LU-10 Parking

Protect residential areas from institutional and commercial parking impacts by encouraging use of alternative modes of transportation and strictly enforcing residential parking permit regulations.

TRANSPORTATION ELEMENT

The City of Berkeley Transportation Element includes the following policy relevant to air quality.

Policy T-19 Air Quality Impacts

Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low emission cars that reduce the air quality impacts of the automobile.

ENVIRONMENTAL MANAGEMENT ELEMENT

The City of Berkeley Environmental Management Element includes the following policies relevant to air quality.

Policy EM-5 “Green” Buildings

Promote and encourage compliance with “green” building standards.

Policy EM-35 Energy-Efficient Design

Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.

3.2.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Air Quality. Would the proposed project:

a) Conflict with or obstruct implementation of the applicable air quality plan?
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?
c) Expose sensitive receptors to substantial pollutant concentrations?
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Approach to Analysis

This analysis uses the Bay Area Air District May 2017 *CEQA Air Quality Guidelines* to evaluate air quality. Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod uses project-specific information, including the project's land uses, square footage for different uses (e.g., restroom building and parking), and location, to model a project's construction and operational emissions. The analysis reflects the construction and operation of the proposed project as described under Section 2, *Project Description.*

Construction Criteria Pollutants

Construction-related emissions are limited in duration but may still cause adverse air quality impacts. Construction associated with implementation of the proposed project would generate emissions from three primary sources: the operation of construction vehicles (e.g., scrapers, loaders, dump trucks, etc.) and marine construction vessels (e.g., barges, tugboats, skiffs, etc.); ground disturbance during site preparation and grading, which creates fugitive dust; and the application of asphalt, paint, or other oil-based substances.

The project would involve the demolition and replacement of portions of the existing pier and renovating the surrounding area for recreational purposes, including improving surrounding streets, walkways, and parking lots (including the installation of parking for electric vehicles [EVs]). In addition, the proposed project would involve construction of a restroom building. The project includes electric infrastructure to charge the electric ferry vessels, including a battery energy storage system (BESS). The City is also considering the option of a photovoltaic (PV) system at the parking lot off Seawall Drive. There is a potential that the solar panels may not be constructed; however, to provide a conservative analysis, the air quality emissions associated with the construction of this system is considered in this analysis but any benefits associated with their implementation are not considered in this analysis.

Project construction would primarily generate temporary criteria pollutant emissions from on-site construction equipment operation, construction worker vehicle trips to and from the site, and

import and off-hauling of materials off-site. Construction of the proposed project was analyzed based on the anticipated land use types, building square footage, and construction timeline.

Construction of the proposed project is expected to begin in April 2027 and conclude by the end of 2028, over approximately 21 months. It is assumed construction equipment used would be diesel-powered. Construction emissions were analyzed using CalEEMod, incorporating the construction vehicle equipment mix and horsepower provided by the City for terrestrial and marine activities. The model assumed one day of construction per activity, with total emissions adjusted based on each activity's actual duration outside the model. Emissions from marine construction vessels were calculated separately and added to the respective construction phase totals.

Construction TAC Emissions

Although construction activity is short-lived, it may increase TAC concentrations in the short term at nearby sensitive receptors. DPM is the primary contaminant of concern for the project and would be the TAC emitted in the largest quantity; thus, health risks were assessed as they relate to DPM exposure. The nearest sensitive receptors to the project site are the boats in Berkeley Marina, some of which are live-aboard boats. The house boats are various distances from the different phases of construction. They are 300 feet from University Avenue, 560 feet from Seawall Drive, 600 feet from the public plaza, 700 feet from the pier and dredging activities, 1,000 feet from the parking lot improvements, and approximately 1,600 feet from the proposed shoreline revetment. A quantified construction health risk assessment was prepared for the project. Maximum cancer risk, chronic risk, and $PM_{2.5}$ concentrations were determined for the live-aboard boats, as well as the potential exposure of children to emissions while participating in after school and summer programs that occur at Shorebird Park. Modeling sources were assigned as line volume sources to account for exhaust emissions and area sources to account for fugitive dust emissions. Construction activities were assumed to occur 11 hours per day, and variable emissions were incorporated to limit emissions to this time period.

To develop risk contours, so that the area of maximum impact was captured, a uniform receptor grid was used to determine where maximum impacts would occur; then discrete receptors were placed for live-aboard boats and park receptors at the receptor locations. Twenty-meter spacing was used for the uniform cartesian receptor grid, for up to 1,000 feet from the site boundary. The receptor grid was limited to the shoreline inland, because there are no sensitive receptors that would be in the ocean.

Following the calculation of ground-level concentrations, construction cancer risks were calculated for the project duration, consistent with Bay Area Air District guidance. People under age 16 were assumed to attend both the after school and summer programs at Shorebird Park. Exposure while in these activities were assumed to be 3.5 hours per day for the duration of construction, as a conservative estimate of exposure. Risk was calculated using Rincon's in-house excel spreadsheet and utilizing Bay Area Air District and Office of Environmental Health Hazard Assessment (OEHHA) risk methodology. A more detailed methodology and outputs for health risk are included in Appendix B.

Operation Criteria Pollutant and TAC Emissions

Operation of the project includes recreational and zero-emission ferry transportation uses. Criteria pollutant emissions from mobile sources would be the predominant emissions source, as well as those minor emissions from area sources such as consumer product use for general upkeep and maintenance of the site. Because the ferry vessels would be powered by electricity and would not

require natural gas, diesel, or gasoline fuel use, the project would not generate energy or TAC emissions. TAC emissions for operational emission are, therefore, addressed qualitatively.

Odors

The impact analysis qualitatively evaluates the types of land uses facilitated by the proposed project to evaluate whether major sources of anticipated odors would be present and, if so, whether those sources would likely generate objectionable odors. Screening distance for potential odor impacts are shown in Table 3.2-5.

Table 3.2-5 Bay Area Air District Odor Screening-level Distances Thresholds

Land Use/Type of Operation	Plan Areas Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: Bay Area Air District. 2017. Spare the Air Cool the Climate Final 2017 Clean Air Plan. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en (accessed October 2025).

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to concerns regarding air quality.

The City received comments from organizations that the EIR should consider potential air quality impacts in its EIR. Please refer to the following impact analysis. One of the NOP comments was to consider air quality emissions from the use of diesel for ferry operation or for backup power. The proposed project would not use diesel to operate ferry vessels or for backup power and is, therefore, not discussed further in this EIR.

Specific Thresholds of Significance

Consistency with Air Quality Plan

The applicable air quality plan is the Bay Area Air District 2017 Bay Area Clean Air Plan, which identifies measures to:

- Reduce emissions and reduce ambient concentrations of air pollutants; and
- Safeguard public health by reducing exposure to the air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution.

The proposed project would be consistent with the Bay Area Clean Air Plan if it would support the Clean Air Plan goals, include applicable control measures, and not disrupt or hinder implementation of the Clean Air Plan. Consistency with the Clean Air Plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan.

Construction Criteria Pollutant and TAC Emissions Thresholds

The Bay Area Air District May 2017 *CEQA Air Quality Guidelines* include project-level thresholds for construction-related and long-term operational emissions of air pollutants. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. Construction emissions associated with plan implementation are discussed qualitatively to evaluate potential air quality impacts.

For health risks associated with TAC and $PM_{2.5}$ emissions, the Bay Area Air District May 2017 *CEQA Air Quality Guidelines* state a project would result in a significant impact if the any of the following thresholds are exceeded:

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of > 10.0 in a million;
- Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute); or
- Ambient $PM_{2.5}$ increase of > 0.3 $\mu g/m^3$ annual average

In addition, a project would have a cumulatively considerably impact associated with health risks from TAC and $PM_{2.5}$ emissions if the aggregate total emissions of all past, present, and foreseeable future sources within a 1,000-foot radius of the property line of the source plus the project's contribution exceed any of the following thresholds:

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of > 100.0 in a million;
- Increased non-cancer risk of > 10.0 Hazard Index (Chronic or Acute); or
- Ambient $PM_{2.5}$ increase of > 0.8 $\mu g/m^3$ annual average

Operational Criteria Pollutant and TAC Emissions Thresholds

Operation of the project includes recreational and zero-emission ferry transportation uses. Because the ferry vessels would be powered by electricity and would not require diesel or gasoline fuel use, the project would not generate TAC emissions.

Odors

The significance thresholds for odor impacts are qualitative in nature. Specifically, an odor-generating source with five or more confirmed complaints in the new source area per year averaged over three years is considered to have a significant impact on receptors within the screening distances shown above under the *Approach to Analysis* subsection.

Impact Evaluation

Air Quality Management Plans Consistency

Significance Criterion a:	Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT THE IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction and Operation

The most recently adopted air quality plan in the SFBAAB is the 2017 Clean Air Plan.[14] The 2017 Clean Air Plan is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The 2017 Clean Air Plan does not include control measures that apply directly to construction and operation of individual development projects. Instead, the control strategy includes stationary-source control measures to be implemented through the Bay Area Air District regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the MTC, local governments, transit agencies, and others. The 2017 Clean Air Plan also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard. In this, the 2017 Clean Air Plan replaces the 2010 Clean Air Plan. Under Bay Area Air District methodology, a determination of consistency with *CEQA Guidelines* thresholds should demonstrate that a project:

- Supports the primary goals of the 2017 Clean Air Plan;
- Includes applicable control measures from the 2017 Clean Air Plan; and
- Does not disrupt or hinder implementation of any 2017 Clean Air Plan control measures.

The following includes a discussion of consistency with these criteria for the proposed project. The 2017 Clean Air Plan contains 85 control strategies aimed at reducing air pollution and protecting the climate in the Bay Area. For consistency with climate planning efforts at the State level, the control strategies in the 2017 Clean Air Plan are based on the same economic sector framework used by CARB, which encompass stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Table 3.2-6 identifies applicable control measures, discusses proposed project consistency, and shows corresponding components of the proposed project that would demonstrate consistency with the 2017 Clean Air Plan measures.

[14] Bay Area Air District. 2017. Spare the Air Cool the Climate Final 2017 Clean Air Plan. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en (accessed October 2025).

Table 3.2-6 Clean Air Plan Control Measures Consistency Analysis – Proposed Project

Control Measures	Consistency
Transportation	
TR9: Bicycle and Pedestrian Access and Facilities. Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities.	**Consistent**: The project includes a cycle track along University Avenue and would reconstruct the pier and renovate the surrounding area, which would include improvements to streets, sidewalks, pathways, and trails. In addition, the project would also install bike lockers and bike racks. These improvements would provide safe and accessible routes to the pier and recreational area, which would support bicycle and pedestrian access to the pier.
TR21: Commercial Harbor Craft. Focus on assisting fleets to achieve early compliance with the CARB harbor craft air toxic control measure and supporting research efforts to develop and deploy more efficient engines and cleaner, renewable fuels for harbor craft.	**Consistent.** Implementation of the project would involve operation of electric ferry vessels. As these ferry vessels would be powered by electricity rather than gasoline or diesel fuel, it would promote reliance on cleaner, renewable fuels.
Energy	
EN1: Decarbonize Electricity Production. Engage with PG&E, municipal electric utilities and CCEs to maximize the amount of renewable energy contributing to the production of electricity within the Bay Area as well as electricity imported into the region. Work with local governments to implement local renewable energy programs. Engage with stakeholders including dairy farms, forest managers, water treatment facilities, food processors, public works agencies and waste management to increase use of biomass in electricity production.	**Consistent.** Berkeley is part of the Ava Community Energy community choice aggregate, which provides electricity primarily from clean, renewable sources. Berkeley would continue to reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by Ava Community Energy continues to increase to comply with SB 100 requirements for electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.
Buildings	
BL1: Green Buildings. Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for on-site renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the CALGreen (Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG's BayREN program to make additional funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings.	**Consistent**: The project would involve construction of a restroom building, which would be built to meet the standards set in the latest CALGreen and Building Energy Efficiency Standards.

Note: Only control measures that are applicable to the proposed project are identified.

As indicated in Table 3.2-6, the proposed project would be consistent with the three criteria for evaluating consistency with the 2017 Clean Air Plan. The proposed project would not conflict with or obstruct implementation of the applicable air quality plan; therefore, construction and operational impacts related to air quality management plan consistency would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Criteria Air Pollutants Emissions Compared to Air Quality Standards

Significance Criterion b:	Would the proposed project 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?

Impact AQ-2 THE PROJECT WOULD RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF CRITERIA POLLUTANTS (SPECIFICALLY NO_X) FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AIR QUALITY STANDARD, PRIOR TO MITIGATION. WITH IMPLEMENTATION OF MITIGATION, NO_X WOULD BE REDUCED TO BELOW REGULATORY THRESHOLDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Construction

Project construction would result in temporary air pollutant emissions. Construction activities such as the operation of construction vehicles and equipment over unpaved areas, grading, trenching, and disturbance of stockpiled soils have the potential to generate fugitive dust (PM_{10}) through the exposure of soil to wind erosion. In addition, exhaust emissions associated with heavy-duty construction equipment could potentially degrade regional air quality. Construction emissions were estimated using CalEEMod version 2022.1 (Appendix B), based on parameters that include the duration of construction activity, area of disturbance, and anticipated equipment used during construction. CalEEMod default values were used to determine construction equipment, while construction phase modeling was based on the anticipated schedule, developed by the City's Design Consultant.

Table 3.2-7 summarizes the estimated average daily emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ during project construction.

Table 3.2-7 Project Construction Emissions

	Daily Emissions (lbs/day)					
Year	ROG	NO_X	CO	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)	SO_X
2027	12	153	32	3	3	<1
2028	8	153	32	3	3	<1
Bay Area Air District **Threshold**	**54**	**54**	**N/A**	**82**	**54**	**N/A**
Threshold Exceeded?	No	Yes	N/A	No	No	N/A

Source: Appendix B (Table 2.2 "Construction Emissions By Year" from CalEEMod output. Results rounded to nearest whole number)

As shown in Table 3.2-7, the project would exceed Bay Area Air District construction air quality emission thresholds for NO_X. Impacts would be potentially significant.

However, with incorporation of Mitigation Measure AQ-1, the proposed project would be required to use off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective CARB and USEPA Tier 4 off-road emissions standards, or alternatively fueled equipment which would substantially reduce NO_X emissions. Table 3.2-8 summarizes the estimated average daily emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ during project construction with incorporation of mitigation.

Table 3.2-8 Project Construction Emissions with Mitigation Incorporated

	Daily Emissions (lbs/day)					
Year	**ROG**	**NO_X**	**CO**	**PM_{10} (exhaust)**	**$PM_{2.5}$ (exhaust)**	**SO_X**
2027	12	33	32	1	1	<1
2028	3	33	32	1	1	<1
Bay Area Air District **Threshold**	**54**	**54**	**N/A**	**82**	**54**	**N/A**
Threshold Exceeded?	No	No	N/A	No	No	N/A

Source: Appendix B (Table 2.2 "Construction Emissions By Year" from CalEEMod output. Results rounded to nearest whole number).

As shown in Table 3.2-8, with incorporation of Mitigation Measure AQ-1, the proposed project would not exceed Bay Area Air District construction air quality emission thresholds for NOx. In addition, Mitigation Measure AQ-1 would require compliance with Bay Area Air District rules and regulations related to standard dust control measures such as watering disturbed open areas and unpaved roads. Therefore, construction impacts related to criteria air pollutants would be less than significant with mitigation.

Operational Emissions

Operation of the proposed project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment) and mobile sources (i.e., vehicle trips to and from the project site). Because the proposed ferry vessels would be all-electric, they would not generate criteria pollutant emissions from energy sources, which come from consumption of natural gas. Modeling assumptions are included in Appendix B.

Long-term emissions associated with project operation are shown in Table 3.2-9 and Table 3.2-10. Note that energy emissions are zero, because there would be no natural gas use and electricity would not represent direct site emissions. Therefore, electrical use is not included in operational criteria pollutant emissions. Project operational emissions would not exceed Bay Area Air District average daily or annual thresholds for any criteria pollutant.

Table 3.2-9 Project Operational Average Daily Emissions

	Average Daily Emissions (pounds/day)					
Sources	**ROG**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
Mobile	3	2	26	6	2	<1
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Total Project Emissions	**3**	**2**	**26**	**6**	**2**	**<1**
Bay Area Air District **Thresholds**	**54**	**54**	**N/A**	**82**	**54**	**N/A**
Threshold Exceeded?	No	No	N/A	No	No	N/A

Note: Numbers may not add up due to rounding.

N/A = not applicable; there is no Bay Area Air District threshold for CO or SO_X

Source: Appendix E (Table 2.5 from CalEEMod output. Results rounded to the nearest whole number.)

Table 3.2-10 Project Operational Maximum Annual Emissions

	Maximum Annual Emissions (tons/year)					
Sources	**ROG**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
Mobile	1	<1	5	1	<1	<1
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Total Project Emissions	**1**	**<1**	**5**	**1**	**<1**	**<1**
Bay Area Air District **Thresholds**	**10**	**10**	**N/A**	**15**	**10**	**N/A**
Threshold Exceeded?	No	No	N/A	No	No	N/A

Note: Numbers may not add up due to rounding.

N/A = not applicable; there is no Bay Area Air District threshold for CO or SO_X

Source: Appendix E (Table 2.5 from CalEEMod output. Results rounded to the nearest whole number.)

Because project emissions would not exceed Bay Area Air District thresholds for operation, the project would not violate any air quality standard or result in a cumulatively considerable net increase in criteria pollutants. Therefore, operational impacts related to criteria air pollutants would be less than significant.

Mitigation Measures

MITIGATION MEASURE AQ-1: IMPLEMENT CONSTRUCTION EMISSIONS REDUCTION MEASURES DURING CONSTRUCTION

Prior to issuance of grading and construction permits, the City or its contractor(s) shall include the following measures on all construction plans, and these measures shall be implemented during construction:

- All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the USEPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 final standards.
- Alternative Fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract

agreement with the construction contractor. A copy of the equipment's certification or model year specifications shall be available upon request for all equipment on-site.

- Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used.
- The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction.

In addition, the City shall require the proposed project to comply with the following current Bay Area Air District's basic control measures for reducing construction emissions of PM_{10}[15]:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Level of Significance

Less Than Significant with Mitigation

[15] Bay Area Air District. 2017. California Environmental Quality Act Air Quality Guidelines, Table 8-2. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed October 2025).

Toxic Air Contaminants Emissions Exposure

Significance Criterion c:	Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 THE PROJECT WOULD NOT INCREASE CARBON MONOXIDE CONCENTRATIONS SUCH THAT IT WOULD CREATE CARBON MONOXIDE HOTSPOTS, AND CONSTRUCTION OF THE PROJECT WOULD NOT RESULT IN EMISSIONS OF TACS SUFFICIENT TO EXCEED APPLICABLE HEALTH RISK CRITERIA WITH IMPLEMENTATION OF MITIGATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm.[16]

The Bay Area Air District recommends comparing a project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of carbon monoxide concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. The project would result in a less than significant impact on localized carbon monoxide concentrations if:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plans, and local congestion management agency plans;
2. Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
3. Project-generated traffic would not increase traffic volumes at the affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass).

The project would not increase vehicle traffic at affected intersections to 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited (see Appendix F for additional information regarding the trips that would be generated by the project). In addition, the SFBAAB has been designated attainment under both the national and California AAQS for CO. The project would be consistent with Berkeley's Strategic Transportation Plan (BeST) as it focuses on increasing the availability and use of transit, which is one of the focus areas of improvement within the BeST. The project also is consistent with regional congestion management programs as it will remove vehicles from daily commute on freeways through the use of the ferry thus reducing vehicle congestion on existing high-volume roadways. The project would not have the potential to increase CO hotspots at nearby affected intersections; therefore, operational CO hotspot impacts would be less than significant.

[16] CARB. 2025. California Ambient Air Quality Standards. Available: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards (accessed August 2025).

CONSTRUCTION

Construction-related activities would result in temporary project-generated emissions of DPM exhaust emissions from off-road, heavy-duty diesel equipment for demolition, site preparation, grading, building construction, paving, and other construction activities.

Generation of DPM from construction projects typically occurs in a single area for a short period of time. Construction of the project would occur over approximately 21 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk.[17]

The maximum daily PM_{10} emissions would range from less than 0.165 to 0.025 lbs/day of exhaust (DPM), with the maximum emissions occurring during demolition and grading activities. PM emissions would decrease for the remaining construction period because construction activities such as building construction and paving would require less intensive construction equipment.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these requirements would minimize emissions of TACs during construction. Construction health risk is quantified in Table 3.2-11; as shown in the table, potential health risk would exceed Bay Area Air District significance thresholds. Health risk is identified for live-aboard boats in the Marina Basin assuming that children under 2 are present and would potentially use the Shorebird Park for up to 3.5 hours per day. There are three values presented, those for people on live-aboard boats in the Marina Basin; people living in the live-aboard boats in the Marina Basin using Shorebird Park; and children under 2 that do not live in the live-aboard boats and use Shorebird Park for up to 3.5 hours per day every day of construction. These results are conservative as they represent the highest risk. Furthermore, the risk at Shorebird Park represents the maximum geographic exposure at Shorebird Park (which is directly adjacent to construction activities along Seawall Drive) and it would be anticipated that children attending the programs would not spend all their time in this area. As risk exceeds thresholds prior to implementation of mitigation, project construction would potentially expose sensitive receptors to substantial TAC concentrations. This would represent a potentially significant impact.

[17] Bay Area Air District. 2022. Air Quality Guidelines Appendix E: Recommended Methods For Screening and Modeling Local Risks and Hazards. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?la=en (accessed August 2025).

Table 3.2-11 Unmitigated Construction Health Risk Assessment

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 Annual Average
People in live-aboard boats in Berkeley Marina Basin	10.2	0.012	0.06
People in live-aboard boats in Berkeley Marina Basin using Shorebird Park	26	0.030	0.33
People not on live-aboard boats in Berkeley Marina Basin using Shorebird Park	15.8	0.018	0.28
Bay Area Air District Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	Yes	No	Yes

$PM_{2.5}$ = particulate matter less than 2.5 microns in size; µg/m^3 = micrograms per cubic meter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2] There is no acute reference exposure level for diesel exhaust to calculate acute health risk. Furthermore, except for unusual circumstances of high exposure, Office of Environmental Health Hazard Assessment does not recommend acute analysis for DPM.

Sources: Bay Area Air District 2023. 2022 CEQA Guidelines, Chapter 3. Available: https://www.baaqmd.gov/en/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines (accessed September2025); Appendix B.

However, implementation of Mitigation Measure AQ-1 would reduce emissions from the construction activities through the incorporation of more efficient/cleaner construction equipment. All off-road diesel-powered construction equipment would be equipped with Tier 4 engines. The Tier 4 standards reduce DPM emissions by approximately 81 to 96 percent as compared to equipment that meet the Tier 2 off-road emissions standards, depending on the specific horsepower rating of each piece of equipment. Construction health risk with mitigation incorporated is presented in Table 3.2-12. As shown in the table, potential health risk would be below Bay Area Air District significance thresholds. Project construction would not expose sensitive receptors to substantial TAC concentrations; therefore, construction impacts related to TAC emissions would be less than significant with mitigation.

Table 3.2-12 Mitigated Construction Health Risk Assessment

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 Annual Average
People in live-aboard boats in Berkeley Marina Basin	3.4	0.004	0.02
People in live-aboard boats in Berkeley Marina Basin using Shorebird Park	8.8	0.010	0.12
People not on live-aboard boats in Berkeley Marina Basin using Shorebird Park	5.3	0.006	0.10
Bay Area Air District Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	No	No	No

$PM_{2.5}$ = particulate matter less than 2.5 microns in size; µg/m^3 = micrograms per cubic meter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2] There is no acute reference exposure level for diesel exhaust to calculate acute health risk. Furthermore, except for unusual circumstances of high exposure, Office of Environmental Health Hazard Assessment does not recommend acute analysis for DPM.

Sources: Bay Area Air District 2023. 2022 CEQA Guidelines, Chapter 3. https://www.baaqmd.gov/en/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines (September2025); Appendix B.

OPERATION

Operation of the project includes recreational and zero-emission ferry transportation uses. As the ferry vessels would be powered by electricity and would not require diesel or gasoline fuel use, the project would not generate TAC emissions. Project operation would not expose sensitive receptors to substantial TAC concentrations; therefore, operational impacts related to TAC emissions would be less than significant.

Mitigation Measures

MITIGATION MEASURE AQ-1: IMPLEMENT CONSTRUCTION EMISSIONS REDUCTION MEASURES DURING CONSTRUCTION

See Impact AQ-2

Level of Significance

Less Than Significant with Mitigation

Objectionable Odors

Significance Criterion d:	Would the proposed project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-4 THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Implementation of the proposed project would generate oil and diesel fuel odors during construction from equipment use as well as odors related to asphalt paving. These activities would expose different receptors at different times, and to different degrees, due to the overall area of construction and distance to receptors. Table 2-2 and Table 2-3 in Chapter 2, *Project Description* provide an overall schedule for the different elements associated with the project. Given the temporary nature of the odors associated with the project, and given that construction would occur in different locations wherein receptors would not be exposed to all construction phases, construction odor impacts would be less than significant.

Operation

As stated in the Bay Area Air District *CEQA Guidelines,* land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food manufacturing plants, chemical plants, composting, refineries, landfills, and confined animal facilities. The proposed project would include recreational and zero-emission ferry transportation uses. These land uses typically do not produce objectionable odors. In addition, it is not anticipated that the proposed project would add uses that would have the potential to expose sensitive receptors, such as residences, to odors. Other odors from operation of the proposed project would be limited to odors associated with vehicle and engine exhaust and idling; however, odors from vehicles are not stationary and are dispersed throughout the roadway network. The project would include a fish cleaning station on the pier. The odors from the fish cleaning station would be generally consistent with the odors of the San Francisco Bay. Any odors from fish would be limited to the area around the fish cleaning station

and people would be able to move away from any perceived objectionable odors along the 1,080-foot pier and 400-foot breakwater. Therefore, operational odor impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

3.2.5 Cumulative Impacts

The geographic scope of the cumulative air quality analysis depends on the specific topic for air quality. For impacts related to consistency with an Air Quality Management Plan and criteria air pollutants, the geographic scope is regional and would include potential cumulative impacts within the SFBAAB. For impacts related to TACs, impacts are more localized. The impact analysis below considers the potential cumulative projects within 1,000 feet of the project site. For impacts related to odors, the cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*) located in Berkeley and surrounding areas in addition to the project site.

Air Quality Management Plan Consistency

The project would be consistent with the 2017 Clean Air Plan control measures by encouraging alternative modes of transportation such as ferry use, bicycling, and walking; use of cleaner and renewable energy (from the use of electricity to charge ferry vessels); and installation of water efficient appliances, among others. Because the project would overall be consistent with the 2017 Clean Air Plan, the project would not contribute to a cumulative impact related to inconsistency with an Air Quality Management Plan.

Criteria Pollutant Emissions

The Bay Area Air District has determined that an individual project's contribution to the cumulative impact (non-attainment with regard to criteria pollutant emissions) is cumulatively considerable if a project's individual impacts exceed regulatory thresholds. Since project operation would not generate criteria pollutant emissions that exceed regional significance thresholds, and project construction emissions would not exceed Bay Area Air District significance thresholds with incorporation of Mitigation Measures AQ-1, the proposed project would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment. Therefore, the project's contribution to the cumulative criteria pollutant emissions impact would not be considerable, and the project's cumulative impact would be considered less than significant with mitigation.

Toxic Air Contaminants

The Bay Area Air District recommends evaluating cumulative impacts from TACs and $PM_{2.5}$ when a project is in areas with existing elevated background levels or near multiple emission sources. Projects may be considered to have a significant cumulative impact if the total cancer risk exceeds 100 in one million, a non-cancer hazard index that exceeds 10, or if $PM_{2.5}$ concentrations increase by

more than 0.8 µg/m³ annually when combined with nearby sources. Cumulative impacts consider risk from existing stationary sources, roadways, and railways within 1,000 feet of the project site. Because of the project site size, stationary sources were limited to within 1,000 feet of the Berkeley Marina Basin where people could live on live-aboard boats throughout the year. There are three stationary sources within 1,000 feet of the Berkeley Marina Basin, including a generator at the Double Tree Hotel, the Berkeley Marina center, and fueling at the Berkeley Marina Center. I-80 is located approximately 2,000 feet from the Berkeley Marina Basin and within 1,000 feet of the project site, and an Amtrak railway line with station is located approximately 3,000 feet from the Berkeley Marina Basin and within 1,000 feet of the project site. Therefore, these sources are included in the cumulative toxic air contaminants analysis. As shown in Table 3.2-13, the proposed project and surrounding existing sources of risk would not exceed the Bay Area Air District cumulative threshold. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to TAC emissions.

Table 3.2-13 Cumulative Unmitigated Construction Health Risk Assessment

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m³ annual average
People in live-aboard boats in Berkeley Marina Basin			
Project	10.19	0.012	0.056
Stationary Sources	0.034	0.001	0.000
Roadway Sources	4.15	0.014	0.101
Railway Sources	10.00	0.003	0.010
Total	**24.38**	**0.03**	**0.17**
People in live-aboard boats in Berkeley Marina Basin using Shorebird Park			
Project	26.01	0.030	0.033
Stationary Sources	0.034	0.001	0.000
Roadway Sources	4.15	0.014	0.101
Railway Sources	10.00	0.003	0.010
Total	**40.20**	**0.048**	**0.444**
People not on live-aboard boats in Berkeley Marina Basin using Shorebird Park			
Project	15.82	0.018	0.277
Stationary Sources	0.034	0.001	0.000
Roadway Sources	4.154	0.014	0.101
Railway Sources	10.00	0.003	0.010
Total	**30.01**	**0.037**	**0.388**
Bay Area Air District Significance Threshold	100	10	0.8
Threshold Exceeded?	No	No	No

$PM_{2.5}$ = particulate matter less than 2.5 microns in size; µg/m³ = micrograms per cubic meter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2] There is no acute reference exposure level for diesel exhaust to calculate acute health risk. Furthermore, except for unusual circumstances of high exposure, Office of Environmental Health Hazard Assessment does not recommend acute analysis for DPM.

Source: Bay Area Air District. 2024. Toxic Air Contaminants. https://www.baaqmd.gov/en/about-air-quality/emission-inventory/toxic-air-contaminants (September 2025); Appendix B.

Odor Emissions

Construction of cumulative projects would result in construction equipment-related odors; however, the temporary nature of construction and intermittent rather than continuous odor-producing activities (e.g., paving) of construction results in less than significant cumulative odor impacts. Operation of cumulative projects could adversely affect sensitive receptors from odor emissions if cumulative projects include typical odor-producing land uses. The project is not identified as an odor-producing facility, nor are there developments near the project site or included in the cumulative development list that would produce significant odors. Cumulative odors from the surrounding area from construction and operation would not combine with the proposed project at the same receptors. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to odor emission impacts.

Overall Level of Cumulative Significance

Less Than Significant with Mitigation

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3.3 Biological Resources

3.3.1 Introduction

This section describes existing biological resources within and proximate to the project site as well as the relevant regulatory framework. This section also evaluates possible direct and indirect impacts on biological resources, including special-status species, sensitive natural communities, regulated waters and wetlands, sensitive habitat and mature native trees, and wildlife movement corridors associated with implementation of the proposed project. Information included in this section is based on online record searches of the following databases: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB);[1] California Species List Tool;[2] the California Native Plant Society (CNPS) Online Inventory of Rare, Threatened and Endangered Plants of California;[3] CDFW Biogeographic Information and Observation System (BIOS);[4] the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI);[5] USFWS Critical Habitat Mapper;[6] USFWS Critical Habitat Portal;[7] USFWS Information, Planning, and Conservation System (IPaC);[8] the Berkeley General Plan, Open Space & Recreation Element[9], and Environmental Management Element;[10] CDFW Special Animals List;[11] CDFW Special Vascular Plants, Bryophytes, and Lichens List;[12] the United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey;[13] iNaturalist;[14] eBird;[15] Bumble Bee Watch;[16] the Western Monarch Count;[17] aerial photographs; and topographic maps.

[1] California Department of Fish and Wildlife (CDFW). 2024. California Natural Diversity Database (CNDDB), RareFind V.5.3.0 Available: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data (accessed September 2024).
[2] National Marine Fisheries Service (NMFS). 2016. California Species List Tool. Google Earth KMZ of NMFS Resources. Intersection of USGS 7.5" Topographic Quadrangles with NMFS ESA Listed Species, Critical habitat, Essential Fish Habitat, and MMPS Species Data within California. December 2016. Available: https://archive.fisheries.noaa.gov/wcr/maps_data/california_species_list_tools.html (accessed July 2025).
[3] California Native Plant Society (CNPS). 2024. Inventory of Rare and Endangered Plants. V.7-08c-Interim 8-22-02. Available: www.rareplants.cnps.org (accessed September 2024).
[4] CDFW. 2024. Biogeographic Information and Observation System (BIOS). Available: www.wildlife.ca.gov/data/BIOS (accessed September 2024).
[5] USFWS. 2024. National Wetlands Inventory (NWI) mapper. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper (accessed September 2024).
[6] USFWS. 2023. Environmental Conservation Online System, Critical Habitat Mapper. Available: https://ecos.fws.gov/ecp/report/table/critical-habitat.html (accessed March 2023).
[7] United States Fish and Wildlife Service (USFWS). 2024. Critical Habitat Portal. Available: https://ecos.fws.gov/ecp/report/critical-habitat (accessed September 2024).
[8] USFWS. 2024. Information for Planning and Consultation online Project planning tool. Available: https://ecos.fws.gov/ipac/ (accessed September 2024).
[9] Berkeley, City of. 2002. Berkeley General Plan. Open Space and Recreation Element. Available: https://berkeleyca.gov/sites/default/files/documents/08_Open%20Space%20and%20Recreation%20Element-FINAL.pdf. (accessed October 2025).
[10] Berkeley, City of. 2002. Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan (accessed June 2025).
[11] CDFW. 2025. Special Animals List. Biogeographic Data Branch, California Natural Diversity Database. April. Available: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals (accessed April 2025).
[12] CDFW. 2025. Special Vascular Plants, Bryophytes, and Lichens List. Biogeographic Data Branch, California Natural Diversity Database. April. Available: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals (accessed April 2025).
[13] United States Department of Agricultural, Natural Resources Conservation Service. 2023. Web Soil Survey. Alameda County, California, Western Part. Version 20, September 11. Available: https://websoilsurvey.nrcs.usda.gov/app/ (accessed September 2024).
[14] iNaturalist. 2024. Available: https://www.inaturalist.org/ (accessed October 2024).
[15] Cornell Lab of Ornithology. 2025. eBird: An online database of bird distribution and abundance. eBird, Ithaca, New York. Available: http://www.ebird.org (accessed October 2025).
[16] Bumble Bee Watch. 2024. Developed by Xerces and Partners. Available: https://www.bumblebeewatch.org/ (accessed September 2024).
[17] Xerces Society for Invertebrate Conservation. 2025. The Western Monarch Count. Available: https://westernmonarchcount.org/ (accessed June 2025).

Rincon biologists specializing in terrestrial, marine, and estuarine systems conducted a reconnaissance-level field survey (survey) of the project site on September 19, 2024. The survey consisted of a pedestrian survey throughout terrestrial portions of the project site, including the pier deck, between the hours of 8:00 A.M. and 1:30 P.M. The temperature ranged between 53 and 63 degrees Fahrenheit (°F) and was mostly sunny with winds gusting between three and 15 miles per hour. Representative photographs were taken to document existing conditions, vegetation communities and habitat types, species sign, or other notable biological resource observations.

The survey focused on documenting existing conditions and biological resources, evaluating the project site for potential to support terrestrial and marine special-status plants, wildlife, migratory species, marine habitats, sensitive vegetation communities and potentially jurisdictional resources. Binoculars (10 X 42) were used to aid in identification and to achieve visual coverage of all terrestrial, human-made, and surface water portions of the project site. Focused or protocol-level surveys were not conducted.

Prior to the field survey, Rincon reviewed aerial imagery depicting the project site using Google Earth, the *Oakland West, California* and *San Francisco North, California* USGS 7.5-minute topographic quadrangles,[18] and the Web Soil Survey[19] to better characterize the nature and extent of aquatic resources and riparian habitats potentially occurring on the project site.

Additionally, the biologists evaluated the general condition and level of existing disturbances to vegetation communities and habitat types. The biologists documented signs of the presence of special-status species within the project site. Land use cover types were verified and refined during the reconnaissance-level field survey.

During the survey, a field delineation to evaluate non-wetland waters of the U.S., including streams that might exhibit positive indicators of an ordinary high-water mark (OHWM), and features that might constitute wetland waters of the U.S., waters of the State and/or CDFW-jurisdictional resources as well as BCDC-jurisdictional features was also conducted. Aquatic resources were delineated in accordance with the following:

- Wetlands Delineation Manual;[20]
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0);[21]
- Regulatory Guidance Letter No. 05-05: Ordinary High Water Mark Identification;[22]

[18] United States Geological Survey. 2024. Sacramento East and Citrus Heights, California 5-minute topographic quadrangle. The Living Atlas – Topo Map Explorer. Available: https://livingatlas.arcgis.com/topomapexplorer (accessed September 2024).
[19] United States Department of Agricultural, Natural Resources Conservation Service. 2023. Natural Resources Conservation Service (NRCS). 2023. Web Soil Survey. Alameda County, California, Western Part. Version 20, September 11. Available: https://websoilsurvey.nrcs.usda.gov/app/ (accessed September 2024). [20] United States Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1. United States Army Corps of Engineers Waterways Experiment Station. Vicksburg, Mississippi.
[20] United States Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1. United States Army Corps of Engineers Waterways Experiment Station. Vicksburg, Mississippi.
[21] USACE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). United States Army Corps of Engineers Research and Development Center. Vicksburg, Mississippi. September. Available: https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7627. (accessed February 2026)
[22] USACE. 2005. Regulatory Guidance Letter, No. 05-05: Ordinary High Water Mark Identification. December 7, 2005. Available: https://www.nap.usace.army.mil/Portals/39/docs/regulatory/rgls/rgl05-05.pdf. (accessed February 2026)

- A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States;[23]
- Rapid Ordinary High Water Mark (OHWM) Field Identification Data Sheet;[24]
- National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams;[25] and
- State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.[26]

The mean high water (MHW) and high tide line (HTL) elevations (North American Vertical Datum of 1988 [NAVD 88 datum]), used for delineating the extent of RHA Section 10 and Clean Water Act (CWA) Section 404 waters of the U.S., respectively, were established through desktop analysis based on tidal gauge data for Berkeley, San Francisco Bay (Station ID: 9414816).[27] Digital elevation model data were imported into a Geographic Information System or GIS and contour line data were established to assist in depicting and ground-truthing the MHW and HTL during the field survey.

3.3.2 Environmental Setting

Terrestrial Characteristics

The following discussion includes a description of the physical conditions and biological resources within the terrestrial areas of the project site, including specific information on terrestrial habitats and resources.

Physical Characteristics

The land areas of the project site are largely developed, primarily with recreational land uses, including parks, playgrounds, boating docks, the marina, restaurants, and parking lots and roadways. The topography of the project site is generally flat with landscaped berms at approximately 10-30 feet above mean sea level. The shoreline of the project site is comprised of an up to 30-foot dike, with riprap rock armoring. Riprap consists of large rocks on the west-facing shoreline, and smaller rocks and beach on the east-facing (protected) side, with some use of broken concrete.[28] Terrestrial areas within the project site were constructed over time in former tidelands using dredged materials and other unknown fill sources.

[23] USACE. 2008. A Field Guide to the Identification of the Ordinary High Water mark (OHWM) in the Arid West Region of the Western United States. Technical Report ERDC/CRREL TR-08-12. U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. Hanover, New Hampshire. Available: https://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf. (accessed February 2026)
[24] USACE. 2021. Rapid Ordinary High Water Mark Field Identification Data Sheet. Engineering Form 6250 TR-22-26. U.S. Army Engineer Research Headquarters, CECW-CO-R, August.
[25] USACE. 2022. National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams. Technical Report ERDC/CRREL TR-22-26. U.S.
[26] State Water Resources Control Board. 2021. Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State. Adopted April 2, 2019, and revised April 6, 2021. Available: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf (accessed September 2024).[27] National Atmospheric and Oceanic Administration. 2024. Tides and Currents. Datum for the Berkeley S.F. Bay, California (Station 9414816). Available: https://tidesandcurrents.noaa.gov/datums.html?id=9414816 (accessed September 2024).
[27] National Atmospheric and Oceanic Administration. 2024. Tides and Currents. Datum for the Berkeley S.F. Bay, California (Station 9414816). Available: https://tidesandcurrents.noaa.gov/datums.html?id=9414816 (accessed September 2024).
[28] Berkeley, City of. 2024. Draft Waterfront Specific Plan for the City of Berkeley Public Tidelands Area. Available: https://berkeleyca.gov/sites/default/files/documents/BWSP_Draft_2024-11-08.pdf (accessed September 2024).

Vegetation Communities and Other Land Cover Types

DEFINITIONS

Vegetation communities provide wildlife habitat components including food, shelter, movement corridors, and breeding opportunities for wildlife species. They are classified in general terms with an emphasis on vegetation structure, vegetation species composition, soil structure, and water availability. Some wildlife species are generalists that use a variety of habitats, while other species are adapted to very specific habitats. Species that are limited to a single habitat type are more vulnerable to habitat loss and disturbance than are generalists and therefore, may be more at risk to experience population declines.

PROJECT SITE

Vegetation communities identified within the project site were categorized based on results of the literature review, database queries, and field survey. The vegetation community characterizations were based on the classification systems presented in *A Manual of California Vegetation, Online Edition* ([MCV])[29] Two land cover types were identified within the project site during the field survey: developed and riprap dike. Three vegetation communities were also identified within the project site: coyote brush scrub, ruderal, and landscaped (Figure 3.3-1).

Developed

Developed areas within the project site consist of roads, parking lots, trails, buildings, piers and boat ramps, storage areas, and playgrounds. Vegetation is mostly absent from this land cover type, although landscaped and ruderal vegetation is present at a fine scale.

Riprap Dike

Riprap areas within the project site consist of large boulders, and in some areas, debris, broken concrete and trash. Vegetation is mostly absent from this land cover type; however, non-native grasses and weedy species such as fennel (*Foeniculum vulgare*) occur between boulders, primarily on the sheltered side facing the Berkeley shoreline and inside the marina. Small, isolated patches of pickleweed (*Salicornia pacifica*) also occur in these areas but are not large enough to support pickleweed marsh habitat.

Coyote Brush Scrub

This vegetation community is dominated by coyote brush (*Baccharis pilularis*), with small scrubby coast live oaks (*Quercus agrifolia*), American bird's foot trefoil (*Acmispon americanus*), and seaside wooly sunflower (*Eriophyllum staechadifolium*), as well as non-native ornamentals. This vegetation community is heavily disturbed by recreational use, non-native species, and park maintenance, but most closely corresponds with the *Baccharis pilularis* Shrubland Alliance in the MCV.[30] This community is on filled baylands, and is likely the result of natural recruitment and landscaping. Additionally, American bird's foot trefoil and seaside wooly sunflower are located adjacent to interpretive signage. Only a small portion of this community overlaps with the project site, located near the beach by Shorebird Park on the east-facing shoreline area.

[29] CNPS. 2025. A Manual of California Vegetation, Online Edition. California Native Plant Society, Sacramento, California.
[30] CNPS. 2025. A Manual of California Vegetation, Online Edition. California Native Plant Society, Sacramento, California.

Figure 3.3-1 Vegetation Communities and Land Cover Types[31]



[31] Note: subtidal nearshore habitat is located around the pier.

Ruderal

Ruderal areas are primarily found along the edges of roadways and trails within the project site and have been heavily disturbed or altered such that natural vegetation has largely been removed or are colonized by weeds and disturbance-tolerant natives, such as English plantain (*Plantago lanceolata*), coyote brush, and non-native annual grasses such as wild oats (*Avena* spp.). This vegetation community is not described in the MCV.[32]

Landscaped

Landscaped areas make up most of the vegetation within the project site, and consists of non-native annual grasses, lawns, and ornamental trees and shrubs, such as common velvetgrass (*Holcus lanatus*), foxtail barley (*Hordeum murinum*), kikuyu grass (*Pennisetum clandestinum*), showy honey-myrtle (*Melaleuca nesophila*), bottlebrush (*Melaleuca* sp.), Monterey cypress (*Hesperocyparis macrocarpa*), Monterey pine (*Pinus radiata*), Bishop pine (*Pinus muricata*), and Torrey pine (*Pinus torreyana*). Some native species were also observed, including saltgrass (*Distichlis spicata*). This vegetation community is not described in the MCV.[33]

Sensitive Natural Communities and Critical Habitats

DEFINITIONS

Sensitive natural communities are vegetation types, associations, or sub-associations that support concentrations of special-status plant and/or wildlife species, are of relatively limited distribution, and/or are of particular value to wildlife. Critical habitat is a term used in the federal Endangered Species Act (ESA) and is defined as a specific geographic area (or areas) that contain features essential for the conservation of a threatened or endangered species and that may require special management and protection.

PROJECT SITE

No terrestrial sensitive natural communities occur on the project site and the project site is not located within any USFWS designated critical habitat.[34] Designated critical habitats within five miles of the project site are identified only for species with no potential to occur on the project site (Santa Cruz tarplant [Euphydrydas merge bayensis] and Alameda whipsnake [Masticophis lateralis euryxanthus]).

Wildlife Movement

DEFINITIONS

Wildlife movement corridors, or habitat linkages, are generally defined as connections between areas of suitable habitat that allow for physical and genetic exchange between otherwise isolated wildlife populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein wildlife periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young wildlife. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity

[32] CNPS. 2025. A Manual of California Vegetation, Online Edition. California Native Plant Society, Sacramento, California.
[33] CNPS. 2025. A Manual of California Vegetation, Online Edition. California Native Plant Society, Sacramento, California.
[34] USFWS. 2024. Critical Habitat Portal. Available: https://ecos.fws.gov/ecp/report/critical-habitat (accessed September 2024).

Project, commissioned by the California Department of Transportation (Caltrans) and CDFW, identifies "Natural Landscape Blocks" which support native biodiversity and the "Essential Connectivity Areas" which link them.[35]

PROJECT SITE

Most of the project site is developed and urbanized and does not provide for wildlife movement corridors. The project site is not located within an Essential Connectivity Area or Natural Landscape Block.[36] However, the project site is located within Baylands adjacent to marine foraging habitat, and trees within the project site may provide roosting habitat for migratory birds.

Trees

Trees are located on the project site, including at the existing berm between Seawall Drive and the existing parking lot. In addition, within the existing Seawall Drive parking lot, there are trees in parking islands. Finally, trees are located near the intersection of University Avenue and Seawall Drive. In total, 61 trees are located on the project site, the majority of which are in poor health and include species such as Monterey cypress, Monterey pine, Italian stone pine, Japanese black pine, soapwood, blackwood acacia, coast redwood, Cataline ironwood, and New Zealand Christmas tree. These trees are subject to Berkeley Municipal Code Section 12.44.020, which imposes restrictions on cutting and trimming trees located in streets, parking strips, and public squares (see discussion below in Section 3.3.3, *Regulatory Framework*).

Marine Characteristics

The following section includes a description of the oceanographic conditions and marine biological resources within and immediately adjacent to the water areas of the project site and provides specific information on marine habitats and resources.

Physical Characteristics

The water portions of the project site are largely open water but also contain the existing Berkeley Pier. Within the open water areas of the project site, the original Berkeley Pier was constructed in 1926, and adjacent to the project site the original yacht harbor was completed in 1936 and fully developed by the 1970s. The project site occurs within Treasure Island-Frontal South Bay Subwatershed along the shoreline of the San Francisco Bay. The NWI classifies the San Francisco Bay within and west of the project site as Estuarine and Marine Deepwater habitat and the San Francisco Bay in the eastern half of the project site as Estuarine and Marine Wetland habitat.[37]

[35] Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.
[36] CDFW. 2024. Biogeographic Information and Observation System (BIOS). Available: www.wildlife.ca.gov/data/BIOS (accessed September 2024).
[37] USFWS. 2024. National Wetlands Inventory (NWI) mapper. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper (accessed September 2024).

Oceanographic Characteristics

DEFINITIONS

Oceanographic characteristics describe the physical and chemical conditions within a marine or estuarine environment that influence habitat quality and biological communities. These include parameters such as salinity, temperature, depth, turbidity, tidal range, and current velocity, as well as circulation patterns, wave energy, and sediment dynamics. Together, these factors shape the distribution and composition of marine habitats within the project site.

PROJECT SITE

The marine area of the project site is bordered by riprap dike armoring and is perennially inundated along the west side. The sheltered side of the project site, east of Shorebird Park also contains a narrow band of intertidal habitat that is exposed during low tides. Marine habitat within the project footprint and adjacent areas is comprised of subtidal nearshore habitat.

Water temperature in San Francisco Bay ranges from 53 °F to 60 °F. According to 2022 U.S. Environmental Protection Agency (USEPA) Waterbody Reports, water quality in the San Francisco Bay Estuaries watershed is considered a CWA Section 303d impaired waterbody.[38] Water quality is monitored for physical, chemical, and biological factors. The assessment of the water quality is analyzed against USEPA-approved water standards or thresholds, and water quality can either be categorized as good or impaired. The water quality parameters evaluated along the San Francisco Bay shoreline included dioxins, mercury, polychlorinated biphenyls, pesticides, foreign plants and/or animals, and trash. Bathymetric data indicates maximum depth within the project site at the end of the pier is approximately ten feet at mean lower low water (MLLW), and less than five feet at MLLW within the South Sailing Basin (Figure 3.3-2).

[38] USEPA. 2025. How's My Waterway online portal. Available: https://mywaterway.epa.gov/community (accessed June 2025).

Figure 3.3-2 Marine Habitat Types Within and Proximate to the Project Footprint



Marine Habitat Types

SUBTIDAL NEARSHORE MARINE

The marine portion of the project site primarily consists of subtidal nearshore habitat in the northern portion of the San Francisco Bay. Nearshore marine habitat is found throughout the project site. This habitat consists mainly of mud and sedimentary particles in locations of lower water movement. Benthic organisms are associated with soft sediment habitat, primarily invertebrate species. Benthic organisms are an important component of the food web and are indicators of environmental quality. Benthic areas within this habitat type may be occupied by a variety of regionally occurring invertebrates, such as polychaete worms (including *Mediomastus californiensis* and *Polydora kempi*), shrimp (*Neomysis rayii, Bathyleberis* sp., and *Euphilomedes carcharodonta*), crabs (including *Hemigrapsus nudus*), bivalves (including *Macoma secta* and *Transennella tantilla*), seastars (including *Amphiodia* spp.), gammarid amphipods (including *Aoroides columbiae* and *Corophium acherusicum*), and other sessile and suspension feeding organisms.

The water column within the project site can provide foraging habitat for juvenile and adult fish species, such as salmonids (most notably, steelhead [*Oncorhynchus mykiss*]), starry flounder (*Platichthys stellatus*), barred surfperch (*Amphistichus argenteus*), and rockfish (*Sebastes* spp.). Schools of Pacific herring (*Clupea palasii*), Pacific sardine (*Sardinops sagax caerulea*), and Pacific mackerel (*Scomber japonicus*) are also known to transit and feed within the project site. A variety of seabirds also utilize this habitat, including California brown pelican, osprey (*Pandion haliaetus*), western sandpiper (*Calidris mauri*), and western grebe (*Aechmophorus occidentalis*).

Marine intertidal habitat and species observed during the field investigation on September 19, 2024 at low tide (0.4 feet MLLW at 0704) documented healthy and spatially consistent hard substrate intertidal communities composed of a low diversity of common algal and invertebrate species and assemblages. The intertidal communities observed were well organized throughout the observed tidal range with most of the 1.5-foot to 10.0-foot MLLW habitat exposed. Hard substrate dominated the intertidal habitat in the western portion of the project site in the vicinity of the pier. The intertidal habitat along the shoreline rock riprap and pier piling substrates were composed of Acorn barnacles (*Balanus glandula* and *Chthamalus stellatus)* and periwinkles snails (*Littornia littorea*) in the high tide or splash zone areas, a range of algal species were present in the middle (mid) tide range area with spatial dominant species observed to be sea lettuce (*Ulva lactuca*) and nori or laver (*Porphyra* spp.). In the high to mid zone *Endocladia murricata*, *Hesperophycus californicus*, and various red foliose alga were present in the mid to low areas. The low tide area (< 1.5 feet MLLW) was only marginally exposed with California mussel (*Mytilus californianus*) present but not considered dense or habitat forming. The invasive bryozoan (*Watersipora subatra*) was observed in the low tide area in both the erect and prostrate form. Overall pier pilings supported mostly encrusting invertebrate species barnacles and mussels, like the rock riprap, with the communities vertically compressed and not considered thick or dense. Rock riprap dominated the intertidal substrate throughout the project site with the only notable tidal inlet (Strawberry Creek) and observable mudflats noted or exposed in the South Sailing Basin. Shallow subtidal marine habitat (< -2.0 feet to -20 feet MLLW) is composed of nearly exclusively mudflats with hard substrate confined to submerged pier pilings and the occasional displaced rock from the shoreline riprap based on NOAA navigation charts and project site-specific bathymetric survey imagery.

EELGRASS BEDS

Eelgrass (*Zostera marina*) thrives in soft seafloor environments, typically found in shallow bays and estuaries. Eelgrass beds can transform unstructured shallow-water areas into physically structured habitat that can support a wide variety of organisms. The complexity of this habitat can support residents that have a variety of life histories and feeding modes. Eelgrass beds provide foraging and refuge habitat for juvenile fish species, including salmonids, Pacific herring, and rockfish species. A variety of seabirds utilize eelgrass habitat, including double-crested cormorant, great egret, and black oystercatcher (*Haematopus bachmani*). There are previously documented eelgrass beds in the vicinity of the project site, but no documented occurrences of eelgrass within the project site. The nearest documented occurrence of eelgrass is from the South Sailing Basin, approximately 3,800 linear feet from any areas where in-water work is proposed, where less than 0.01 acre of eelgrass was mapped during the 2003 Baywide Eelgrass Inventory of San Francisco Bay.[39] This small patch of eelgrass was not re-detected during the subsequent baywide eelgrass inventories conducted in 2009 and 2014.[40, 41]

Within San Francisco Bay, the 2003, 2009, and 2014 baywide eelgrass inventories found that 98.8 percent of eelgrass was observed between 0 and -6.6 feet MLLW. In the western portion of the project site, along the rip-rap shoreline where in-water work is proposed, water depth quickly drops off to -5 feet MLLW to -8 feet MLLW. This western shoreline of the Berkeley Waterfront also receives some of the highest energy waves in the San Francisco estuary. This depth profile and energetic environment promotes the establishment of macroalgae such as chainbladder kelp (*Stephanocystis osmundacea*), which has been observed growing on the edge of the existing riprap, but does not promote the establishment of eelgrass, which occurs in lower energy, shallower environments in the San Francisco estuary.

Critical Habitat

Critical habitat is designated for the southern distinct population segment (DPS) of green sturgeon and the Sacramento River winter-run ESU of Chinook salmon within the project site, in the San Francisco Bay.[42]

Essential Fish Habitat

DEFINITIONS

Essential Fish Habitat (EFH) is defined under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as those waters and substrate necessary to fish for spawning, breeding, feeding, or growing to maturity. Substrate includes the sediment, hard bottom, structures underlying the waters and the associated biological communities.

[39] Merkel & Associates. 2004. Baywide Eelgrass Inventory of San Francisco Bay: Pre-survey Screening Model and Eelgrass Survey Report. Accessed October 2025.
[40] Merkel & Associates. 2009. San Francisco Bay Eelgrass Inventory October-November.
[41] Merkel & Associates. 2014. San Francisco Bay Eelgrass Inventory October.
[42] NMFS. 2024. Critical Habitat Mapper. Available: https://www.fisheries.noaa.gov/resource/map/national-esa-critical-habitat-mapper (accessed October 2024).

PROJECT SITE

EFH for Pacific Coast Salmon, including Chinook salmon, Pacific Coast Groundfish, and Coastal Pelagic Species (CPS) occur within the project site.[43]

The freshwater EFH for Chinook salmon and Coho salmon consists of four major components: spawning and incubation, juvenile rearing, juvenile migration corridors, and adult migration and holding habitat. Important features for the marine and estuarine EFH are good water quality, cool water temperatures, abundant prey species and foraging habitat, connectivity with terrestrial ecosystems, and adequate depth and habitat complexity, including marine vegetation and algae in estuarine and nearshore habitats. The east-west geographic boundary of EFH for each individual CPS finfish and market squid is defined to be all marine and estuarine water from the shoreline along the coasts of California. Eelgrass beds, a component of EFH, was not observed and does not contribute to EFH within the project site.

Habitat Areas of Particular Concern

DEFINITIONS

Estuaries and marine and estuarine Submerged Aquatic Vegetation (SAV), including eelgrass, are considered Habitat Area of Particular Concern (HAPC) for Chinook salmon, Coho salmon, groundfish, and CPS finfish. Estuary HAPC are defined by NOAA as the inland extent of the estuary or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 parts per thousand (ppt) during the period of average annual low flow.[44][45][46] The seaward extent is an imaginary line closing the mouth of a river, bay, or sound; and to the seaward limit of wetland emergent shrubs, or trees occurring beyond the lines closing rivers, bays, or sounds. This HAPC also includes those estuary-influenced offshore areas of continuously diluted seawater. Marine and estuarine SAV or seagrass HAPC is defined as habitat those waters, substrates and other biogenic features associated with eelgrass species (*Zostera* spp.) or surfgrass (*Phyllospadix* spp.)

PROJECT SITE

San Francisco Bay is the largest estuary on the west coast of North America. Estuaries are complex systems that encompass a variety of habitat types within a small area, including sand and gravel beaches, mudflats, tidal creeks, shallow nearshore waters, pocket estuaries and mixing zones. All are vital to the growth and survival of salmon, mainly during the juvenile phase of the species. Juvenile salmon utilize estuaries for three purposes: a rich nursery capable of sustaining increased growth rates, temporary refuge from marine predators, and a physiological transition zone where juveniles can gradually acclimate to saltwater. Chinook salmon are well known for utilizing natal river tidal deltas, non-natal "pocket estuaries" (nearshore lagoon and marshes), and other estuarine habitats. Estuaries tend to be shallow, protected nearshore areas, influenced by the ocean and freshwater. Tidal cycles and freshwater runoff create nutrient-rich and biologically productive

[43] NMFS. 2024. Essential Fish Habitat Mapper. Available: https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper (accessed September 2024).
[44] NMFS. 2023. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon and Washington Groundfish Fishery. December 2023. Pacific Fisheries Management Council.
[45] NMFS. 2024. Critical Habitat Mapper. Available: https://www.fisheries.noaa.gov/resource/map/national-esa-critical-habitat-mapper (accessed October 2024).
[46] NMFS. 2024. Coastal Pelagic Species Fishery Management Plan. As Amended Through Amendment 21. April.

habitats important for groundfish species, including kelp greenling (*Hexagrammos decagrammus*), starry flounder, and cabezon (*Scorpaenichthys marmorthus*).

Estuarine SAV habitats, including eelgrass beds, have been previously documented by the CNDDB south of the project site (Figure 3.3-2). The presence of nearshore sandy bottom habitat provides the potential for eelgrass beds to occur in areas outside of those previously documented areas. Figure 3.3-2 shows both previously documented eelgrass habitats, as well as areas with potential eelgrass habitat within the project site. These habitats provide important nurseries, feeding grounds, and shelter to a variety of fish species including salmon and groundfish species. Juvenile salmon utilize eelgrass beds as migratory corridors during their transition to the open ocean. Eelgrass beds also provide refuge from predators and an abundant food supply. No eelgrass is currently documented to be present in the project site and has only been documented in very small patches in the South Sailing Basin over the last 15 years.

Marine Protected Areas

DEFINITION

Marine Protected Areas (MPA) are defined by Executive Order 13158 as "Any area of the marine environment that has been reserved by Federal, State, territorial, tribal or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein."[47]

PROJECT SITE

There are no MPAs within the project site. However, there is a MPA approximately 1.6 miles to the north adjacent to the Albany Mudflats State Marine Park.

Hydroacoustic Characteristics

DEFINITIONS

Hydroacoustic characteristics refer to conditions within the project site with respect to underwater sound waves (pressure) and protected wildlife species. The bathymetric depth and shape of the underwater environment, as well as the surrounding boundary conditions (structures or land masses), affect the way sound propagates and attenuates from individual sound source locations. The potential physical or behavioral effects on protected species documented to occur within the environment result when the sound from specific activities reaches species-specific effect criteria.

PROJECT SITE

Sound resulting from current in-water activities (i.e., commercial and recreational vessels; maintenance dredging; and a host of in-water recreational activities, including fishing , swimming and windsurfing) within the project site propagate unimpeded in the north, south, and west directions before becoming part of the ambient noise field. Sound levels are most often expressed in decibels (dB), a convenient way of expressing the magnitude of sound pressure levels (SPL). Decibels are a logarithmic measure of sound strength based on a ratio of the pressure fluctuations to a reference pressure. The reference pressure for acoustic SPLs is the micro Pascal (µPa) with 20 µPa used for air and 1 µPa for water. Thus, hydroacoustic SPLs are reported in decibels relative to 1

[47] NOAA. 2025. Marine Protected Areas Definitions. Available: https://marineprotectedareas.noaa.gov/aboutmpas/termsdefinitions/#:~:text=Executive%20Order%2013158%20defines%20%22MPA%22%20as%2C%20%22Any%20area,all%20of%20the%20natural%20and%20cultural%20resources%20therein.%22 (accessed October 2025).

micro Pascal (dB re 1 µPa). Ambient sound in Bay waters, including the project site, averages about 123 dB root mean square (RMS) but ranges from 115 to 150 dB RMS.[48] RMS describes the average sound pressure level of a fluctuating acoustic signal, offering a stable measure of overall underwater noise. Shallow, confined water bodies typically have lower sound attenuation rates as compared to the deeper open ocean due to the compressed nature of the water and sound refraction from bottom sediments and sea surface. Biological sounds and the sound of wind-driven waves generally control ambient noise levels in the absence of anthropogenic sound sources.

The project site receives an abundance of anthropogenic sounds in terms of both continuous and episodic impulsive sound sources. Vessel traffic in the Bay is nearly continuous with cargo ships arriving and departing from five major ports, ongoing maintenance and construction of waterfront facilities, dredging, and smaller commercial and recreation vessel operations. The City of Berkeley conducts routine maintenance dredging of the Berkeley Marina, which includes clam shell dredging to design depths that vary from the -8 to -12 feet MLLW plus an additional 2-foot over-dredge allowance. This work is performed under a 10-year maintenance dredging permit issued by the U.S. Army Corps of Engineers (USACE), which is valid until 2034.

Jurisdictional Features

Definitions

The term "waters of the U.S." has a broad meaning and incorporates both deep-water aquatic habitats and special aquatic sites, including wetlands. Generally, this term applies to the jurisdictional limits of the authority of the USACE under the CWA. Waters of the U.S. includes essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

Wetlands are driven by hydrology and occur where water is present near the soil surface resulting in soil and plant characteristics that are not found in upland (mostly dry) or aquatic (almost always wet and un-vegetated) habitats. Wetlands are generally found in transition zones between upland and aquatic habitats.

Overview

The terrestrial portion of the project site is located along the shoreline of the northern San Francisco Bay. The project site occurs within the Treasure Island-Frontal South Bay Subwatershed (Hydrologic Unit Code [HUC]: 18050002100102).[49] NWI classifies the bay west of the marina as Estuarine and Marine Deepwater habitat and the bay east of the marina as Estuarine and Marine Wetland habitat.[50] At the east end of the project site, Strawberry Creek outfalls into the bay via a concrete box culvert and underground culverts and storm drains.

The marine portion of the project site includes a portion of the San Francisco Bay, a tidally influenced estuary and traditional navigable water that flows to the Pacific Ocean.[51] Primary freshwater input comes from the Sacramento-San Joaquin Delta, entering the bay through the Carquinez Strait. The San Francisco Bay is considered a traditional navigable water up to the MHW

[48] WRA, Inc. 2018. Pile-Driving Noise Measurements at WETA Downtown San Francisco Ferry Terminal Expansion Project
[49] USFWS. 2024. Information for Planning and Consultation online Project planning tool. Available: https://ecos.fws.gov/ipac/ (accessed September 2024).
[50] USFWS. 2024. National Wetlands Inventory (NWI) mapper. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper (accessed September 2024).
[51] USACE. 1971. Navigable Waterways as of 2 August 1971. Available: https://www.spn.usace.army.mil/Portals/68/docs/regulatory/1%20-%20Sect10waters.pdf (accessed November 2024).

elevation established at 5.62 feet NAVD88 and is a permanent body of water.[52] The placement and extent of the riprap dike surrounding the land-water interface of the project site precludes sediment deposition and the growth of vegetation associated with tidal marsh, sub-tidal wetlands, and other wetlands typically found in the nearshore environment. In the absence of distinguishing features of a high tide line, the one-year extreme tide elevation identified in the *San Francisco Bay Tidal Datums and Extreme High Tides Study* at 7.44 feet NAVD88 elevation was used to determine the extent of USACE and Regional Water Quality Control Board (RWQCB) jurisdiction under the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The MHW elevation constitutes the limits of USACE jurisdiction under Section 10 of the Rivers and Harbors Act. BCDC jurisdiction includes all areas of the San Francisco Bay (up to the MHW), as well as the shoreline band 100 feet inland of the MHW and Baylands filled on or after the enactment of the McAteer-Petris Act.[53]

The San Francisco Bay is not considered CDFW jurisdictional pursuant to Section 1600 et seq. of the CFGC because the Bay is a tidal body of water and would not be considered a lake or stream with a bed and bank.

Project Site

The Web Soil Survey for *Alameda County, California*, *Western Part*, identifies two soil map units within the project site: Urban Land and Water.[54] Each of these soil map units is described in detail below.

- **Urban land** is an artificial landfill soil type and consists of 85 percent urban land and 15 percent minor components. This soil type is found on toeslopes at elevations from 10 to 320 feet.
- **Water** is a soil map unit that depicts areas of open water that do not contain soil materials.

None of the above soil types are listed as hydric on the List of Hydric Soils for Alameda County, Western Part.[55] No marshlands or other wetland waters are present in the project site. No wetlands were observed within the project site during the aquatic resources delineation.

The project site contains approximately 177.62 acres of the San Francisco Bay at the high tide line (HTL), a water of the U.S and State subject to the permit requirements of USACE pursuant to CWA Section 404. The project site also contains 177.41 acres of the San Francisco Bay at MHW under the jurisdiction of USACE pursuant to RHA Section 10. The project site contains approximately 177.62 acres of the San Francisco Bay, a water of the U.S and State subject to the permit requirements of RWQCB pursuant to CWA Section 401 and the Porter-Cologne Act. The project site contains 183.21 acres of tidally influenced areas of the San Francisco Bay and the first 100 feet inland from the shoreline at the MHW elevation under the jurisdiction of BCDC pursuant to the McAteer-Petris Act. Figure 3.3-3 identifies potential jurisdictional areas within the project site.

[52] National Atmospheric and Oceanic Administration. 2024. Tides and Currents. Datum for the Berkeley S.F. Bay, California (Station 9414816). Available: https://tidesandcurrents.noaa.gov/datums.html?id=9414816 (accessed September 2024).
[53] The McAteer-Petris Act established the BCDC and grants it jurisdiction over these areas. For a detailed discussion of the McAteer Petris Act, please refer to Section 3.3.3, *Regulatory Framework, State Regulations*.
[54] United States Department of Agricultural, Natural Resources Conservation Service. 2023. Natural Resources Conservation Service (NRCS). 2023. Web Soil Survey. Alameda County, California, Western Part. Version 20, September 11. Available: https://websoilsurvey.nrcs.usda.gov/app/ (accessed September 2024).
[55] United States Department of Agricultural, Natural Resources Conservation Service. 2024. National Hydric Soils List by State: California. Available: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html (accessed September 2024).

Figure 3.3-3 Jurisdictional Aquatic Resources Delineated in the Project Footprint[56]



[56] Figure 3.3-3 shows the City's current understanding of BCDC jurisdiction, based on available documentation.

The Strawberry Creek outfall is tidally influenced above the MHW elevation. Therefore, this feature is not subject to USACE, RWQCB, or CDFW jurisdiction. The concrete substrate lacks the features of tidal marsh or mudflats but is within the shoreline band and thus subject to BCDC jurisdiction.

Special-status Species

Definitions

For the purpose of this EIR, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS and/or National Marine Fisheries Service (NMFS) under the ESA; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); plants listed as rare by the CDFW under the Native Plant Protection Act; and animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW. Those plants ranked as California Rare Plant Rank (CRPR) 1 or 2 are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and were considered as such in this EIR.

In addition, special-status species are defined as those, pursuant to CEQA Guidelines Section 15125(a), that special emphasis should be placed on resources that are rare or unique to the region. Therefore, species included in the World Conservation Union's Red List of Vulnerable Species (IUCN), protected under the Convention of International Trade in Endangered Species of Fauna and Flora (CITES), protected by the Convention on Migratory Species (CMS), and protected under the MMPA are also listed here.

Terrestrial Species

SPECIAL-STATUS PLANT SPECIES

Eighty (80) special-status plant species documented within the *Oakland West, California* USGS 7.5-minute quadrangle and surrounding eight quadrangles were assessed for their potential to occur within the project site (Appendix C). Due to the lack of natural native vegetation communities, lack of suitable native soils, and/or effects of historical development and disturbance within the project site, none of the special-status plant species documented in the nine-quadrangle search are expected to occur within the project site (see Appendix C). In addition, no special-status plant species were observed during a field survey conducted in September 2024.[57]

SPECIAL-STATUS WILDLIFE SPECIES

Forty-seven (47) terrestrial special-status wildlife species were assessed for their potential to occur within the project site (Appendix C), of which seven have the potential to occur within the terrestrial portions of the project site. One species, double-crested cormorant (*Nannopterum auritum*, CDFW Watch List), was determined to have a moderate potential to occur and is discussed in further detail below.

In addition, the following six species (one insect, one reptile, and four avian species) were determined to have a low potential to occur, and therefore, with the exception of the northwestern pond turtle (which is discussed further due to the proximity of potential habitat near the project site), are not discussed further because they are unlikely to be affected by the project:

[57] Rincon. 2024. Field visit covering the project site by biologists, Samantha Kehr, Anastasia Ennis, Owen Routt, and Derek Lerma. September 19.

- Crotch's bumble bee (*Bombus crotchii*, State candidate endangered)
- Northwestern pond turtle (*Actinemys marmorata*, federally proposed threatened, State species of special concern [SSC])
- Cooper's hawk (*Accipiter cooperii*, CDFW Watch List)
- Burrowing owl (*Athene cunicularia*, State candidate)
- White-tailed kite (*Elanus leucurus*, State fully protected)
- Alameda song sparrow (*Melospiza melodia pusillula*, SSC)

The remaining 40 terrestrial species evaluated are not expected to occur in the project site or the immediate vicinity based on the absence of grassland, woodland, chaparral, vernal pool, or other suitable natural habitats or vegetation communities and/or because the range of the species does not overlap with the project site. Special-status wildlife species with a moderate potential to occur (i.e., double-crested cormorant) and those with a low potential but proximity to suitable habitat (i.e., northwestern pond turtle) are discussed in further detail below. Special-status species that are not State or federally listed and/or have a low potential to occur are not further addressed in this section. No special-status wildlife species were observed during the survey conducted in September 2024.

Northwestern Pond Turtle

Northwestern pond turtle is a semi-aquatic reptile species that is federally proposed threatened and SSC that is found in ponds, lakes, rivers, creeks, marshes, and irrigation ditches, with abundant vegetation. It requires basking sites of logs, rocks, cattail mats, or exposed banks. Northwestern pond turtle is active from approximately February to November and estivates during summer droughts by burying itself in soft bottom mud. When creeks and ponds dry up in summer, some turtles will travel along the creek until they find an isolated deep pool, others stay within moist mats of algae in shallow pools, and many turtles move to woodlands above the creek or pond and bury themselves in loose soil. Northwestern pond turtle will overwinter underground until temperatures warm up and heavy winter flows of creeks subside. Northwestern pond turtles estivating in upland areas typically return to creeks and other aquatic habitat in the spring.

Northwestern pond turtle has been observed at parks and lagoons within five miles of the project site; however, the species is not typically found in tidal waters, and near the project site is most likely limited to occurring at the mouth of Strawberry Creek (see Figure 3.3-2), though even this habitat is of limited suitability. Furthermore, the areas of limited potential aquatic habitat are located adjacent to but not on the project site, and the project site is not hydrologically connected to any known areas of occurrence. Although northwestern pond turtles may move through uplands, the project site is surrounded by highly urbanized areas, including University Avenue to the north and Interstate 80 to the east, thus there is low potential for this species to occur within the project site.

Double-Crested Cormorant

The double-crested cormorant is a CDFW Watch List avian species that forms breeding colonies in clusters of trees near large bodies of water. Their diet consists primarily of fish, which they catch by diving and chasing underwater with powerful propulsion from webbed feet. After fishing, the birds rest on high, airy perches to dry off and digest.[58] Within the urbanized San Francisco Bay Estuary,

[58] Cornell Lab of Ornithology. 2025. All About Birds. Available: https://www.allaboutbirds.org/ (accessed October 2025).

this species nests on bridges, electrical towers, non-native trees, and levees of managed ponds.[59] Only nesting colonies are protected for this species.[60]

This species has been frequently documented near the Berkeley Marina within the project site.[61] There is a moderate potential for this species to nest on the closed pier; however, double-crested cormorants have not been recorded nesting within the project site.

Marine Species

PLANT AND ALGAL SPECIES

Eelgrass is a type of flowering marine plant that is designated as a HAPC, a discrete subset of EFH protected under the MSA by NMFS. Please refer to the *Eelgrass Beds* section under the *Marine Habitat Types* subsection above for an overview of eelgrass, including that eelgrass beds are not anticipated to occur on the project site.

MARINE AND ANADROMOUS WILDLIFE SPECIES

Twenty-two (22) special-status marine species were evaluated for their potential to occur within the project site (Appendix C), of which 12 have high to moderate potential to occur within the marine areas of the project site. The species that can be reasonably anticipated to occur were determined based on the published ranges of the species, and the type, extent, and condition of habitat available at the project site.

Seven species have a high potential to occur in the project site:

- Green sturgeon – Southern DPS (*Acipenser medirostris*, pop. 1 federally threatened, SSC)
- White sturgeon (*Acipenser transmontanus*, State candidate threatened) non-breeding
- Chinook salmon – Sacramento River Winter-Run Evolutionarily Significant Unit (ESU) (*Oncorhynchus tshawytscha*, pop. 7 federally and State endangered) non-breeding
- Pacific lamprey (*Entosphenus tridentatus*, SSC)
- Longfin smelt – San Francisco Bay-Delta DPS (*Spirinchus thaleichthys,* pop. 2 federally endangered and State threatened)
- Harbor seal (*Phoca vitulina richardii*, MMPA)
- California sea lion (*Zalophus californianus*, MMPA)

Five species have a moderate potential to occur within the project site:

- Steelhead – Central California coast DPS (*Oncorhynchus mykiss irideus*, pop. 8 federally threatened) non-breeding
- Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus*, pop. 11 federally threatened) non-breeding
- Chinook salmon – Central Valley spring-run ESU (*Oncorhynchus tshawytscha*, pop. 11 federally threatened) non-breeding

[59] Rauzon, M.J. et al. 2019. Changes in abundance and distribution of nesting double-crested cormorants *Phalacrocorax* auritus in the San Francisco Bay Area 1975-2017. *Marine Ornithology.* 47: 127-138.
[60] CDFW. 2025. Special Animals List. Biogeographic Data Branch, California Natural Diversity Database. April. Available: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals (accessed April 2025).
[61] Cornell Lab of Ornithology 2025. eBird: An online database of bird distribution and abundance. eBird, Ithaca, New York. Available: http://www.ebird.org (accessed October 2024).

- Harbor porpoise (*Phocoena phocoena*, MMPA)
- Common bottlenose dolphin (*Tursiops truncates*, MMPA)

Special-status marine species that have a moderate or high potential to occur, or are present within the project site, are discussed in the impact analysis. For the purposes of the EIR, special-status species that are not State or federally listed and have a low potential to occur are generally not discussed further.

There are two federally listed special-status marine species with low potential to occur:

- Humpback whale (*Megaptera novaeangliae* – Central America DPS, federally endangered, MMPA)
- Humpback whale (*Megaptera novaeangliae* – Mexico DPS, federally threatened, MMPA)

The gray whale (*Eschrichtius robustus* – Eastern North Pacific DPS, federally delisted, MMPA) also has low potential to occur. Although gray whales are no longer federally listed, the species remains protected under the MMPA, which prohibits the take of marine mammals including behavioral harassment resulting from exposure to elevated underwater noise. Marine mammals, including gray whales, rely primarily on acoustic cues for navigation, communication, and foraging. Under CEQA, gray whales are considered regionally significant biological resources due to their protection under the MMPA. Accordingly, despite the species' low potential to occur in the project vicinity, gray whale is discussed further below.

No marine mammal or fish species were observed during the survey conducted in September 2024.[62]

Fish

Green Sturgeon – Southern DPS

Green sturgeon in this region is part of the southern DPS and is federally threatened. The species is a prehistoric cartilaginous fish that inhabits the waters along the west coast of North America. Green sturgeon is among the largest and longest living species found in freshwater, living up to 70 years and weighing up to 350 pounds. The species has a cartilaginous skeleton and possesses rows of bony plates for protection rather than scales. Green sturgeons are olive green in color and are highly adapted for feeding on bottom-dwelling species. During spawning runs, adult fish enter San Francisco Bay between mid-February and early May and migrate up the Sacramento River. Green sturgeon spawn in water temperature between 54-59 °F. In the fall the post spawn adults migrate back down the river and re-enter the ocean.

The southern DPS of green sturgeon occupies coastal bays and estuaries from Monterey Bay, California to Puget Sound, Washington. Critical habitat has been designated to include Coastal U.S. marine waters within 60 fathoms depth from Monterey Bay, California (including Monterey Bay), north to Cape Flattery, Washington, including the Strait of Juan de Fuca, Washington, to its United States boundary. Additionally, several large watersheds flowing into San Francisco Bay and north are also individually included. The shoreline along the Bay within the project site falls within designated critical habitat for the southern DPS of green sturgeon. Therefore, there is a high potential for individuals to migrate, forage, and transit within the project site.

[62] Rincon. 2024. Field visit covering the project site by biologists, Samantha Kehr, Anastasia Ennis, Owen Routt, and Derek Lerma. September 19.

White Sturgeon

The white sturgeon is a CDFW SSC and a state candidate for listing. White sturgeon is the largest freshwater fish in North America. The species can grow to 10 feet and weigh up to 400 pounds. The species has a cartilaginous skeleton and possesses five rows of bony plates. White sturgeon has light gray coloring on their dorsal side and white on their ventral side. Adult white sturgeons migrate from the San Francisco Bay estuary into the Sacramento river in the winter and spawn from February to June.

The white sturgeon is an anadromous fish spending most of its life in coastal waters from Ensenada, Mexico to Alaska and found in large rivers and their associated estuaries. White sturgeon in the Sacramento-San Joaquin system represents the southernmost spawning population of the species. Adult white sturgeons have been observed moving throughout the San Francisco Bay Estuary, occasionally making forays into coastal waters. Therefore, there is a high potential for individuals to migrate, forage, and transit within the project site.

Chinook Salmon Sacramento River Winter-Run ESU

The Chinook salmon - Sacramento River winter-run ESU is federally and State endangered. Chinook salmon is an anadromous fish spending most of its life in coastal waters. This population of chinook salmon spawns in the Sacramento River and its tributaries, as well as winter-run chinook salmon that are part of a conservation hatchery program run by USFWS. Juveniles reared in the San Joaquin Delta and migrate to the ocean between November and May, and adult immigration through the delta and into the lower Sacramento River occurs from December through July.[63] The shoreline along the Bay within the project site falls within designated critical habitat for the Sacramento River Winter-Run ESU for chinook salmon. Therefore, there is a high potential for individuals to migrate, forage, and transit within the project site.

Pacific lamprey

Pacific lamprey are ancient eel-like fish that lack jaws and have a round sucker-like mouth. Lamprey are anadromous, similar to salmon, adults live in marine environments for one to three years before migrating to freshwater habitats to spawn. Larva burrow in fine substrates of freshwater creeks and streams and filter feed for between two to seven years. Between summer and winter larva metamorphose and move through the water column, emigrating to the ocean between late fall and spring. Therefore, there is a high potential for individuals to migrate, forage, and transit within the project site.

Longfin Smelt

Longfin smelt is federally endangered and is a State threatened fish species. This species is characterized by long pectoral fins that reach to the base of the pelvic fins, silver sides, and dorsal coloration ranging from olive to pinkish. Longfin smelt typically live for two years. Larvae move throughout the water column to maintain position within the mixing zone of the San Francisco Bay estuary where they forage on small shrimp-like crustaceans. Longfin smelt spawn from November through May and generally spawning peaks from February to April. Longfin smelt is found along the Pacific coast from Alaska to California. Longfin smelt were once one of the most abundant open-water fish in the San Francisco Bay Estuary. The species was historically found in the San Francisco Bay estuary and the Sacramento-San Joaquin Delta, Humboldt Bay, and the estuaries of the Eel River

[63] NMFS. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salman, Central Valley spring-run Chinook Salmon, and the Distinct Population Segment of Central Valley Steelhead. July.

and Klamath River. Therefore, there is a high potential for individuals to migrate, forage, and transit within the project site.

Steelhead – Central California Coast DPS

The Central California Coast DPS of steelhead is federally threatened. This DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River in Mendocino and Sonoma counties to Aptos Creek in Santa Cruz County, California. Steelhead is the term used to denote the anadromous life-history form of rainbow trout (*O. mykiss*).[64] Central California Coast steelhead are winter-run salmonids, meaning that adults enter freshwater between November and April to spawn. Steelhead are capable of surviving in a wide range of temperature conditions within freshwater and estuarine environments but prefer temperatures less than 57 °F. Eggs tend to experience mortality at temperatures greater than 55 °F, and steelhead appear to have difficulty obtaining sufficient oxygen from water temperatures greater than 70 °F. Elevated summer water temperatures within the San Francisco Bay Estuary have been identified as a problem for this species. Steelhead do best where dissolved oxygen concentrations are at least seven parts per million. In streams, deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates that are free of excessive silt.[65]

Suitable freshwater breeding habitat for the species does not occur within the project site. However, the San Francisco Bay habitat within the project site provides migrating habitat for this species. Therefore, there is a moderate potential for individuals to migrate, forage, and transit within the project site.

Steelhead - Central Valley DPS

The steelhead Central Valley DPS is federally threatened. Steelhead is an anadromous fish spending most of its life in coastal waters. This population of steelhead spawns in the Sacramento and San Joaquin Rivers and their tributaries, within the central and northern Central Valley. Juveniles are reared in the Sacramento and San Joaquin River systems and migrate to the ocean in spring and early summer, and adult immigration through the delta and into the lower Sacramento River occurs from August through March.[66] Therefore, there is a moderate potential for individuals to migrate, forage, and transit within the project site.

Chinook Salmon - Central Valley Spring-Run ESU

The Chinook salmon - Central Valley spring-run ESU is federally threatened. Chinook salmon is an anadromous fish spending most of its life in coastal waters. This population of chinook salmon spawns in the Sacramento River and its tributaries. Juveniles reared in the San Joaquin Delta and migrate to the ocean between December, January, and February, and adult immigration through the delta and into the lower Sacramento River occurs from late January to early February.[67] Therefore, there is a moderate potential for individuals to migrate, forage, and transit within the project site.

[64] Because both anadromous and resident O. mykiss may potentially occur in a given watershed, the term *O. mykiss* is used in situations where distinguishing juvenile steelhead from resident rainbow trout would be problematic. Preservation of both life-history forms is considered a high priority in the Final Coastal Multispecies Recovery Plan.
[65] NMFS. 2005. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. Federal Register 50:52488-52586.
[66] NMFS. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salman, Central Valley spring-run Chinook Salmon, and the Distinct Population Segment of Central Valley Steelhead. July.
[67] NMFS. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salman, Central Valley spring-run Chinook Salmon, and the Distinct Population Segment of Central Valley Steelhead. July.

Commercially Important Fisheries Species

The San Francisco Bay is also habitat for important commercial fisheries species such as Dungeness crab (*Metacarcinus magister*), Pacific herring (*Clupea pallasi*), surfperches (*Embiotocidae*), rockfish (*Sebastes* spp.), and California halibut (*Paralichthys californicus*). These species are not federally- or state listed or managed under the MSA; however, they are regulated under California's Marine Life Management Act. While individuals are not protected, the fishery, or population as a whole, is protected. These species occur within estuarine habitats of the Bay for at least part of their life cycle and are vulnerable to urban impacts.

Marine Mammals

Harbor Seal

The harbor seal is protected by the MMPA and inhabits temperate coastal habitats along the entire coast of California. The species hauls out on rocks, reefs, and beaches to rest, regulate body temperature, give birth, nurse pups, and molt. Harbor seals feed in both deep and shallow coastal waters and their diet consists primarily of fish, crustaceans, and mollusks.[68] There are haul-out sites that are located throughout the bay and this species has been observed in the waters off the Berkeley Pier.[69] There is a high potential for individuals to migrate, forage, and transit within the project site.

California Sea Lion

The California sea lion is protected by the MMPA and inhabits temperate coastal habitats along the entire coast of California but can be found along the coast from Vancouver Island to Baja California and Mazatlan in Mexico. The species hauls out on beaches, docks, and jetties to rest, regulate body temperature, give birth, nurse pups, and molt. This species does not breed in the San Francisco Bay. In California, the majority of California sea lions breed on islands off the coast of southern California. California sea lions feed in both deep and shallow coastal waters and their diet consists of a variety of prey, including schooling fish and cephalopods, in areas of upwelling., crustaceans, and mollusks.[68] There are haul-out sites throughout the Bay and in the vicinity of the project site, and this species has been observed in the waters off the Berkeley Pier.[69] There is a high potential for individuals to migrate, forage, and transit within the project site.

Harbor Porpoise

The harbor porpoise is protected by the MMPA and occurs globally in temperate, subarctic, and arctic coastal and offshore waters. The species is commonly found in coastal areas, bays, estuaries, harbors, and fjords and is most often seen in groups of under ten individuals. Diet consists primarily of schooling fish and occasionally includes squid and octopus.[70] There are several occurrences recorded in the entrances of San Francisco Bay.[71] There is a moderate potential for individuals to migrate, forage, and transit within the project site.

[68] NMFS. 2024. Species Directory. Available: https://www.fisheries.noaa.gov/species-directory (accessed October 2024).
[69] iNaturalist. 2025. Available: https://www.inaturalist.org/ (accessed October 2025).
[70] NOAA. 2024. Update to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0) Underwater and In-Air Criteria for Onset of Auditory Injury and Temporary Threshold Shifts Office of Protected Resources National Marine Fisheries Service Silver Spring, MD 20910. NOAA Technical Memorandum NMFS-OPR-71 October.
[71] iNaturalist. 2024. Available: https://www.inaturalist.org/ (accessed October 2024).

Common Bottlenose Dolphin

The common bottlenose dolphin is protected by the MMPA and occurs in temperate and tropical waters around the world. The species inhabits a wide variety of habitats, including harbors, bays, gulfs, and estuaries, as well as nearshore coastal waters, deeper waters over the continental shelf, and even far offshore in the open ocean. Diet consists of a variety of prey species, including fish, squid, and crustaceans.[70] There are several occurrences recorded in the northern San Francisco Bay.[71] There is a moderate potential for individuals to migrate, forage, and transit within the project site.

Gray Whale – Eastern North Pacific DPS

The gray whale has a low potential to occur within the project site, in the fall when the species is migrating from its summer feeding grounds in the Bering and Chukchi Seas to the breeding lagoons of Baja California and again from mid-February to May migrating northward along the west coast of the U.S. The Eastern North Pacific DPS population was once listed but has successfully recovered and was delisted in 1994.[72] There is low potential for the species to be found in the project site due to its shallow depths; however, gray whales have had recent sightings in the San Francisco Bay.[69]

Humpback Whale – Central American DPS and Mexico DPS

Humpback whale is divided into 14 DPSs, four of which are listed as federally endangered and one listed as federally threatened.[73] The Central American DPS and Mexico DPS both feed and travel off the coast of California during the spring, summer, and fall. The species is typically found in deeper water approximately one to five miles offshore. Although the project site has depths too shallow for whales, there have been recent sightings of humpback whales in the San Francisco Bay, thus the species has a low potential to occur in the vicinity of the project site.[69]

3.3.3 Regulatory Framework

Federal Regulations

Clean Water Act Section 404

Congress enacted the Clean Water Act or CWA "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 Code of Federal Regulations (CFR) Part 328.3 to include navigable, tidal, and interstate waters and certain impoundments, tributaries, and wetlands. The most recent regulatory definition of the term was promulgated by USACE and United States Environmental Protection Agency (USEPA) in January 2023, following failed attempts in prior years that had been frustrated by legal challenges. However, in May 2023, the U.S. Supreme Court issued its ruling in *Sackett v. Environmental Protection Agency*, which invalidated portions of the updated regulations. To address this ruling, the agencies issued a

[72] NOAA. 2025. NOAA Fisheries Species Directory: gray whale. Available: https://www.fisheries.noaa.gov/species/gray-whale (accessed October 2025).
[73] NOAA. 2025. NOAA Fisheries Species Directory: humpback whale. Available: https://www.fisheries.noaa.gov/species/humpback-whale (accessed October 2025).

"conforming rule" in September 2023 (88 Federal Register 61964-61969), as well as modifying their definition of "waters of the United States" to comport with the Court's ruling. This definition is described in detail below.

Current USACE and USEPA regulations, reflecting the January 2023 definition and as modified by the September 2023 Conforming Rule, define "waters of the United States" as follows (33 CFR 328.3;

1. Waters which are:
    a) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
    b) The territorial seas; or
    c) Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under provision (5) of this section;
3. Tributaries of waters identified in provisions (1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
    a) Waters identified in provision (1) of this section; or
    b) Relatively permanent, standing or continuously flowing bodies of water identified in provisions (2) or (3) of this section and with a continuous surface connection to those waters.
5. Intrastate lakes and ponds, not identified in provisions (1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in provisions (1) or (3) of this section.

The definition specifies the following features are not "waters of the United States" even where they otherwise meet the terms of provisions (2) through (5) above:

1. Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the CWA;
2. Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA;
3. Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water (i.e., flowing for more than three months out of the year);
4. Artificially irrigated areas that would revert to dry land if the irrigation ceased;
5. Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
6. Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

7. Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
8. Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The lateral limits of USACE jurisdiction in non-tidal waters are defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(c)(1)). Therefore, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4[c]). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 Federal Register 41217).

USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[c][1]). USACE's delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

HYDROPHYTIC VEGETATION

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. USACE published the National Wetland Plant List[74] which separates vascular plants into the following basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the USACE's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5 percent vegetative cover to be considered a vegetated wetland.

[74] United States Army Corps of Engineers. 2022. National Wetland Plant List. Available: https://nwpl.sec.usace.army.mil/download/ (accessed October 2025).

HYDRIC SOILS

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

WETLAND HYDROLOGY

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Limitations on Jurisdiction based on Sackett v. USEPA Supreme Court Decision

On May 25, 2023, the Supreme Court issued its decision on the petition from the Sacketts, a family in Idaho that was subject to a compliance order from the USEPA for backfilling their lot near Priest Lake, which the USEPA claimed contained federally-regulated wetlands. *Sackett v. U.S. Environmental Protection* Agency, 598 U.S. 651 (2023). The wetlands in question were adjacent to a ditch that fed a creek that ultimately drained into Priest Lake, a navigable water body. The USEPA asserted the Sacketts had violated the law by filling the wetlands on their property without a permit. The Court's decision addressed controversy over whether, and under what conditions, the CWA reaches navigable waters' tributaries or adjacent wetlands. The Supreme Court's decision in *Sackett* provides definitive guidance to the agencies in determining the limits of their CWA authority. Major tenets of the decision have been incorporated into the agencies' current regulations through the September 2023 Conforming Rule.

The Court decided:

- "Adjacent wetlands" are waters of the United States only if there is a continuous surface connection between the wetland and a navigable or relatively permanent water body, such that it is difficult to determine the boundary between the wetland and the water body. The opinion notes "temporary interruptions to surface connection may sometimes occur because of phenomena like low tides or dry spells." The agencies addressed this element by defining the term "adjacent" to mean "having a continuous surface connection" in the Conforming Rule.
- The Significant Nexus Standard, introduced by the Court in prior decisions, is not mentioned in the CWA and should not be used. The Court determined the standard applies ecological factors whose use in determining jurisdiction is not supported by the statute. The Conforming Rule removed significant nexus considerations from the definition.

Although jurisdiction over tributaries was not addressed by the Court, the decision stated "…the [Clean Water Act's] use of "waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." The Conforming Rule makes clear that only relatively permanent tributaries qualify as "waters of the United States."

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a CWA Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant requests a pre-application meeting with the RWQCB, waits no less than 30 days, and then submits an application to the RWQCB and informs USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. USACE will then determine a "reasonable period of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. Under current regulations, once initiated, the reasonable period of time cannot be stopped or paused. When the period has elapsed, if the RWQCB has not either issued a Section 401 Certification or denied the application, USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued, it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Endangered Species Act

The USFWS and NMFS share responsibility for implementing the ESA. Generally, the USFWS implements the federal ESA for terrestrial and freshwater species, while the NMFS implements the federal ESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered animal species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA;

however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

- It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
- Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
- New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act (MBTRA) limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not

present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended (16 U.S. Code 1801 et seq.) established:

- A fishery conservation zone between the territorial seas of the United States and 200 nautical miles offshore;
- An exclusive U.S. fishery management authority over fish within the fishery conservation zone (excluding highly migratory species);
- Regulations for foreign fishing within the fishery conservation zone through international fishery agreements, permits, and import prohibitions; and
- National standards for fishery conservation and management and eight regional fishery management councils to apply those national standards in fishery management plans.

Congress enacted the 1996 amendments to the Act, known as the Sustainable Fisheries Act (SFA) (Public Law 104-297), to address the substantially reduced fish stocks that declined as a result of direct and indirect habitat loss. The SFA requires that the Bureau of Ocean Energy Management and other agencies consult with the NMFS concerning actions that may adversely impact EFH.

In 2007, President George W. Bush signed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006. It mandates the use of annual catch limits and accountability measures to end overfishing, provides for fishery management by a limited access program, and calls for increased international cooperation.

Marine Mammal Protection Act

The MMPA was enacted on October 21, 1972. All marine mammals are protected under the MMPA. The MMPA prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S.

Jurisdiction for MMPA is shared by USFWS and NMFS. The USFWS/NMFS Branch of Permits is responsible for issuing take permits when exceptions are made to MMPA. Harassment of marine mammals also requires Incidental Harassment Authorization (IHA) from NMFS.

Pacific Coast Salmon Fishery Management Plan

The Pacific Coast Salmon Fishery Management Plan (FMP) is managed by the Pacific Fishery Management Council (PFMC), with implementation and regulatory authority carried out by NMFS. The current Pacific Coast Salmon FMP provides management protection for natural and hatchery salmon species off the coasts of Washington, Oregon, and California. These species include Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), pink salmon (*O. gorbuscha*) (in odd-numbered years), and all salmon protected under the ESA except steelhead. The EFH designated for these species includes marine waters from the shoreline to the boundary of the Exclusive Economic Zone (EEZ; 200 miles offshore) and estuarine and freshwater habitat within Washington, Oregon, California, and Idaho.

Pacific Coast Groundfish Fisheries Management Plan

The Pacific Coast Groundfish FMP, which is managed by the PFMC and implemented by NMFS, provides protection to 107 marine fish species (Elasmobranch species [e.g., sharks, rays], roundfish species, rockfish species, flatfish species, endemic skates except longnose skate and big skate, endemic grenadiers, mesopelagic fish, silversides, smelts and pelagic squids). The overall extent of the EFH for all Pacific Coast Groundfish species is identified as all waters and substrate within the following areas: depths less than or equal to 3,500 meters to mean higher high level (MHHW) or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salt measure less than 0.5 ppt during the period of average annual low flow; seamounts in depths greater than 3,500 meters as mapped in the EFH assessment geographic information system; and areas designated as HAPC not already identified.

Coastal Pelagic Species Fishery Management Plan

The Coastal Pelagic Species FMP, which is managed by the PFMC and implemented by NMFS, provides protection for four finfish species: northern subpopulation of Pacific sardine (*Sardinops sagax*), Pacific mackerel (*Scomber japonicus*), northern anchovy (*Engraulis mordax),* jack mackerel (*Trachurus symmetricus*); one squid species: market squid (*Doryteuthis opalescens*); and eight krill species (*Euphausia pacifica, Thysanoessa spinifera, Nyctiphanes simplex, Nematocelis difficilis, Thysanoessa gregia, Euphausia recurve, Euphausia gibboides* and *Euphausia eximia*). The east-west geographic boundary of EFH for each individual CPS finfish and market squid is defined to be all marine and estuarine water from the shoreline along the coasts of California, Oregon and Washington offshore to the limits of the EEZ and above the thermocline where sea surface temperatures range between 10 °C to 26 °C.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint-source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's (2019) *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

The SWRCB and RWQCBs have not currently established regulations for field determinations of waters of the State except for wetlands. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region, and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to USACE.

Procedures for defining wetland waters of the State pursuant to the SWRCB's (2019) *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as a wetland if, under normal circumstances:

1. the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
2. the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
3. the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State (2019, states waters of the United States and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

California Endangered Species Act

The CESA (CFGC Section 2050 et seq.) prohibits take of state listed threatened or endangered. Take under CESA is defined as "Hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (CFGC Section 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA's protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 California Code of Regulations 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Sections 4700, 5050, and 5515 of the California Fish and Game Code

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the CFGC, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan is in place that authorizes take of the fully protected species.

Sections 3503, 3503.5, and 3513 of the California Fish and Game Code

CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the MBTA.

Marine Life Protection Act

The Marine Life Protection Act of 1999 (MLPA) directs the state to redesign California's system of MPAs to function as a network in order to: increase coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems subject to minimal human disturbance. Six goals guided the development of MPAs in the MLPA planning process:

- Protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems
- Help sustain, conserve and protect marine life populations, including those of economic value, and rebuild those that are depleted
- Improve recreational, educational and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity
- Protect marine natural heritage, including protection of representative and unique marine life habitats in CA waters for their intrinsic values
- Ensure California's MPAs have clearly defined objectives, effective management measures and adequate enforcement and are based on sound scientific guidelines
- Ensure the State's MPAs are designed and managed, to the extent possible, as a network

To help achieve these goals, three MPA designations (state marine reserves, state marine parks and state marine conservation areas), one marine managed area (state marine recreational

management area) and special closures were used in the MPA planning process. For the purposes of MPA planning, a public-private partnership commonly referred to as the MLPA Initiative was established, and the state was split into five distinct regions (four coastal and the San Francisco Bay) each of which had its own MPA planning process. All four coastal regions have completed these individual planning processes. As a result, the coastal portion of California's MPA network is now in effect statewide. Options for a planning process in the fifth and final region, the San Francisco Bay, have been developed for consideration at a future date.

Marine Life Management Act

The Marine Life Management Act (MLMA), which became law on January 1, 1999, established a fishery management system for four groups of fisheries:

- The nearshore finfish fishery and the white seabass fishery
- Emerging fisheries - new and growing fisheries that are not currently subject to specific regulation
- Those fisheries for which the Fish and Game Commission held some management authority before January 1, 1999. Future regulations affecting these fisheries will need to conform to the MLMA
- Those commercial fisheries for which there is no statutory delegation of authority to the Commission and Department. (In the case of these fisheries, CDFW may prepare, and the Commission may adopt, a fishery management plan, but that plan cannot be implemented without a further delegation of authority through the legislative process)

Borrowing from experience with federal fishery management law, the MLMA initiated a comprehensive approach to fisheries management. The primary vehicle for this approach is the development of fishery management plans for all of the State's major recreational and commercial fisheries.

Marine Invasive Species Act

The Marine Invasive Species Program began in 1999 with the passage of California's Ballast Water Management for Control of Nonindigenous Species Act, which addressed the threat of species introductions from vessels arriving at California's ports. In 2003, the Marine Invasive Species Act was passed, reauthorizing and expanding the 1999 Act. Subsequent amendments to the Act and additional legislation further expanded the Program's scope.

The Marine Invasive Species Program seeks to reduce the risk of aquatic nonindigenous species introduction into California's waters through:

- The development, implementation, and enforcement of vessel biofouling and vessel ballast water management strategies and polices;
- The use of best available technology and peer reviewed science; and
- Partnerships with stakeholders to improve awareness of invasive species issues and assess program efficacy.

McAteer-Petris Act

BCDC was given authority under the McAteer-Petris Act (Act) in 1968 to regulate development in the following areas:

- San Francisco (SF) Bay itself, defined as all areas that are subject to tidal action, including: sloughs, marshlands lying between mean high tide and five feet above mean sea level, tidelands lying between mean high tide and mean low tide, and submerged lands lying below mean low tide, from the south end of SF Bay to the Golden Gate to the Sacramento River;
- A shoreline band of land extending inland for 100 feet from the shoreline of SF Bay (as defined above);
- Salt ponds, defined as all areas which have been diked off from the Bay and have been used during the three years immediately preceding November 11, 1969 for the solar evaporation of Bay water in the course of salt production (i.e., includes all levees, water conveyance channels, etc. used as part of the saltworks production;
- Managed wetlands, defined as areas which have been diked off from the Bay and have been maintained during the three years immediately preceding November 11, 1969 as a duck hunting preserve, game refuge, or for agriculture; and
- Certain waterways consisting of all areas that are subject to tidal action on named tributaries that flow into SF Bay, as listed in the Act.

The McAteer-Petris Act requires that any person or governmental agency wishing to place fill in, or to extract materials exceeding $20 in value from, or make any substantial change in use of any land, water, or structure within the area of BCDC jurisdiction must secure a permit from BCDC (as well as any permit required from any city or county within which any part of the work is to be performed). The Act provides that the BCDC shall grant a permit if it finds that the project is either: (1) necessary to the health, safety, or welfare of the public in the entire SF Bay area; or (2) consistent with the provision of Act and with the applicable provisions of the San Francisco Bay Plan.

The McAteer-Petris Act establishes a number of policies that must be met to authorize the placement of fill in SF Bay and in its “certain waterways” jurisdiction, including the following:

- The public benefits from the proposed fill clearly exceeds the public detriment from the loss of water areas;
- Further filling should be limited to water-oriented uses (including but not limited to ports, water-related industry, airports, bridges, wildlife refuges, and water oriented recreation and public assembly) or minor fill for improving shoreline appearance or access to SF Bay;
- Fill should be authorized for any purpose only when no alternative upland location is available for such purpose;
- The water area to be filled should be the minimum amount necessary to achieve the purpose of the fill; and
- That the nature, location, and extent of any fill should be such that it will minimize harmful effects to the SF Bay area such as the reduction or impairment of the volume of surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources or other conditions impacting the environment.

The Act authorizes BCDC to designate in the shoreline band certain water-oriented priority land uses that are essential to the public welfare of the SF Bay area. For a project within any portion of the

shoreline band that is located outside the boundaries of water-oriented priority land uses, the McAteer-Petris Act provides that BCDC can deny a permit only if the proposed project fails to provide the maximum feasible public access to SF Bay and its shoreline consistent with the proposed project.

The Act exempts the following activities from the need to obtain a BCDC permit:

- No permit is required for the construction within or upon any public highway or street of public service facilities within the area of the BCDC's jurisdiction.
- No permit is required for ongoing uses within the BCDC's shoreline band, salt ponds, and managed wetlands jurisdiction, provided that no substantial change may be made in such uses without a permit.

BCDC also exercises its authority under Section 307 of the federal Coastal Zone Management Act (16 United States Code section 1456) over federal activities and development projects and non-federal projects that require a federal permit or license or are supported by federal funding.

Public Trust Doctrine

The California State Lands Commission (SLC) manages 4 million acres of tide and submerged lands and the beds of natural navigable rivers, streams, lakes, bays, estuaries, inlets, and straits. These lands, often referred to as sovereign or Public Trust lands, stretch from the Klamath River and Goose Lake in the north to the Tijuana Estuary in the south, and the Colorado River in the east, and from the Pacific Coast 3 miles offshore in the west to world-famous Lake Tahoe in the east, and includes California's two longest rivers, the Sacramento and San Joaquin.

The SLC also monitors sovereign land granted in trust by the California Legislature to approximately 70 local jurisdictions that generally consist of prime waterfront lands and coastal waters. The SLC protects and enhances these lands and natural resources by issuing leases for use or development, providing public access, resolving boundaries between public and private lands. Through its actions, the SLC secures and safeguards the public's access rights to natural navigable waterways and the coastline and preserves irreplaceable natural habitats for wildlife, vegetation, and biological communities.

The SLC also protects state waters from marine invasive species introductions and prevents oil spills by providing the best achievable protection of the marine environment at all marine oil terminals in California and offshore oil platforms and production facilities.

SLC Environmental Planning and Management Division

The Environmental Planning and Management Division provides policy and technical analysis to the SLC and its Executive Officer and ensures compliance with CEQA. The Division prepares Environmental Impact Reports, Mitigated Negative Declarations, and other environmental or public trust documents for land use changes within the SLC's jurisdiction, and routinely comments on CEQA documents prepared by local, state, and federal agencies for projects impacting public trust lands and resources.

SLC Marine Environmental Protection Division

The Marine Environmental Protection Division regulates and inspects all marine oil terminals in California and bulk oil operations at these terminals to provide the best achievable protection of the public health, safety, and the environment. Inspections are conducted on a daily, biennial, and

annual basis and include marine pipeline inspections, review of oil spill prevention requirements, and operational personnel training. The Division also regulates large oceangoing vessels to protect against the introduction of invasive (nonindigenous) species into state waters.

Regional and Local Regulations

San Francisco Bay Subtidal Habitat Goal Report, A 50-Year Conservation Plan

The San Francisco Bay Subtidal Habitat Goals Report: A 50-Year Conservation Plan was developed and led jointly by the California Coastal Conservancy/Ocean Protection Council, BCDC, NMFS, the NOAA Restoration Center, and the San Francisco Estuary Partnership. These agencies together form the Subtidal Goals Project Steering Committee, the group responsible for producing and guiding the plan.

SOFT SUBSTRATE PROTECTION GOALS

1. Consider the potential ecological effects of contaminated sediments when developing, planning, designing, and constructing restoration projects or other projects that disturb sediments.
2. Promote no net increase in disturbance to San Francisco soft bottom habitat.
3. Promote no net loss of San Francisco Bay subtidal and intertidal sand habitats.
4. Develop a coordinated, collaborative approach for regional sediment management of San Francisco Bay.
5. Encourage the application of sustainable techniques in sand habitat replenishment or restoration projects.
6. Encourage removal of artificial structures that have negative impacts on soft bottom habitat functions.

ARTIFICIAL STRUCTURES PROTECTION GOALS

1. Enhance and protect habitat functions and the historical value of artificial structures in San Francisco Bay.
2. Improve San Francisco Bay subtidal habitats by minimizing placement of artificial structures that are detrimental to subtidal habitat function.
3. Where feasible, remove artificial structures from San Francisco Bay that have negative or minimal beneficial habitats functions.
4. Promote pilot projects to remove artificial structures and creosote pilings at targeted sites in combination with a living shoreline restoration design that will use natural bioengineering techniques (such as native oyster reefs, stone sills and eelgrass plantings) to replace lost habitat structure.

SHELLFISH BEDS PROTECTION GOALS

1. Protect San Francisco Bay native shellfish habitats (particularly native oyster, *Ostrea lurida*) through no net loss existing habitat.
2. Protect areas in San Francisco Bay with potential shellfish expansion, restoration or creation.
3. Increase native oyster populations in San Francisco Bay with 8,000 acres of potential suitable subtidal area over a 50-year time frame through a phased approach conducted within a framework of adaptive management.

SUBMERGED AQUATIC VEGETATION GOALS

1. Protect existing eelgrass habitat in San Francisco Bay through no net loss to existing beds.
2. Establish eelgrass reserves. Potential reserve sites include the following eelgrass beds: Keil Cove, Point San Pablo, Point Molate, Richardson Bay, Crown Beach, Bay Farm Island, Eden Landing Ecological Reserve and Coyote Point.
3. Identify and protect areas in San Francisco Bay for future eelgrass expansion, restoration and creation.
4. Protect existing widgeon grass habitat in San Francisco Bay.
5. Protect existing sago pondweed habitat in San Francisco Bay.
6. Increase native eelgrass population in San Francisco Bay within 8,000 acres of suitable subtidal/intertidal area over a 50-year time frame using a phased approach under a program of adaptive management. Priority native eelgrass survey and restoration sites include Corte Madera Bay near the Corte Madera and Muzzi Marshes, San Rafael shoreline to quarry near Point San Pedro, Horeshoe Cove, Sausalito, Richardson Bay, West of Point San Pedro along the shoreline of China Camp State Park, North Richmond Bead from Richmond Bridge to Carquinez Bridge, Albany and Berkeley shorelines, Emeryville Crescent, Middle Harbor, Oakland, Alameda Naval Air Station, Hayward Shoreline, Eden Landing Ecological Reserve, Coyote Point area, San Mateo, and Near Piers 94 and 98.

Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR

The Water Emergency Transportation Authority (WETA) – also known as San Francisco Bay Ferry – prepared the Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR in 2003 (WETA Program EIR). The WETA Program EIR, which the City incorporates by reference herein, included an analysis of the potential impacts on biological resources from the expansion of water transit service and routes defined in the WETA Implementation and Operations Plan, which includes expanded ferry service to Berkeley. The WETA Program EIR analyzed potential impacts and imposed mitigation measures to address the impacts on habitat (jurisdictional wetlands, invasive species, special aquatic sites), plankton productivity, benthic organisms, fish, birds, marine mammals, and special-status species.

As part of the EIR process, WETA adopted a Mitigation Monitoring Plan, which WETA is required to implement for the operation of ferry routes identified in their EIR. The Mitigation Monitoring Plan includes a number of mitigation measures to reduce the potential for marine mammal strikes. Since 2003, WETA has worked closely with the Marine Mammal Center to ensure that implementation of these mitigation measures reflects ongoing technological advances, evolving scientific understanding of best practices, and updated NOAA guidance.[75]

Berkeley General Plan

ENVIRONMENTAL MANAGEMENT ELEMENT

The Environmental Management Element establishes policies for the management and conservation of the city's natural resources and the protection of the community from hazards, pollution, and excessive noise. Relevant policies include:

[75] San Francisco Bay Ferry (WETA). 2026. Marine Mammal Protection & Whale Avoidance Memorandum. From Tom Hall (Director of Operations) and Tim Hanners (Director of Project Delivery & Engineering), San Francisco Bay Ferry (WETA). To Liza McNulty, Capital Improvement Program Manager, City of Berkeley. February 18.

Policy EM-28 Natural Habitat

Restore and protect valuable, significant, or unique natural habitat areas. Actions:

B. Where appropriate, balance increased use of open space and public lands with enhancement of natural habitat.
C. Preserve and enhance coastal and riparian areas and water flows necessary to support natural habitat and wildlife.

Policy EM-29 Street and Park Trees

Maintain, enhance, and preserve street and park trees to improve the environment and provide habitat. Actions:

A. Develop a street and park tree management plan to create a vibrant and well maintained tree population throughout the city. Wherever possible, tree replacement should emphasize native tree and plant species and maintain, to the extent feasible, street tree canopies over the street.
B. Prioritize South and West Berkeley for additional street tree planting.
C. Ensure that new development preserves existing trees, wherever feasible, and adds trees in the public right-of-way, where appropriate.
D. Maintain standards to ensure parking lot tree canopy coverage.
E. Maintain programs to ensure the timely removal and replacement of unhealthy or inappropriate street or park trees.
F. Preserve and protect heritage trees, including native oaks and other significant trees on public and private property whenever feasible.
G. Discourage the filling of planter strips with concrete.

Policy EM-30 Native Plants

Use native tree and plant species to enhance ecological richness. Action:

A. Where appropriate, use native landscaping in new and replacement plantings, and remove non-native plants to create ecological corridors for wildlife habitation.

Berkeley Municipal Code Title 12.44.020

Section 12.44.020 of the Berkeley Municipal Code requires permits and inspection for any cutting, trimming, or removal of any tree, shrub or plant being or growing in or on any street, parking strip, public square, park or playground.

3.3.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Biological Resources. Would the proposed 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 Wildlife or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

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?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

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?

Approach to Analysis

Environmental impacts on biological resources have been assessed using impact significance criteria from federal, State, and local regulations. CEQA, Chapter 1, Section 21001(c) states that it is the policy of the State of California to "prevent the elimination of fish and wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities." Environmental impacts relative to biological resources have been assessed using impact significance criteria set forth in the CEQA Guidelines and federal, State, and local plans, regulations, and ordinances.

Biological Resources

The analysis of impacts related on biological resources is based on review of available literature and online record searches of the following databases: the CNDDB[76], *Online Inventory of Rare, Threatened and Endangered Plants of California*[77], NWI[78], USFWS *Critical Habitat Mapper*[79], and IPaC[80]. The results from this analysis are summarized in Section 3.3.2, *Environmental Setting*. Biologists evaluated impacts on biological resources based on the likelihood that special-status species, sensitive habitats, wildlife corridors, and protected trees are present within the project site, and the likely effects of project construction or operation on these resources. For the purposes of this EIR, the word "substantial" as used in the significance thresholds below is defined by the following three principal components:

- Magnitude and duration of the impact (e.g., substantial/not substantial);
- Uniqueness of the affected resource (rarity); and
- Susceptibility of the affected resource to disturbance.

[76] CDFW. 2024. California Natural Diversity Database (CNDDB), RareFind V.5.3.0. Available: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data (accessed September 2024).
[77] CNPS. 2024. Inventory of Rare and Endangered Plants. V.7-08c-Interim 8-22-02. Available: www.rareplants.cnps.org (accessed September 2024).
[78] USFWS. 2024. National Wetlands Inventory (NWI) mapper. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper (accessed September 2024).
[79] USFWS. 2024. Critical Habitat Portal. Available: https://ecos.fws.gov/ecp/report/critical-habitat (accessed September 2024).
[80] USFWS. 2024. Information for Planning and Consultation online Project planning tool. Available: https://ecos.fws.gov/ipac/ (accessed September 2024).

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to various concerns regarding biological resources impacts.

CDFW, as well as other organizations and individuals provided comments about potential impacts to special-status species. Impacts on special-status species are discussed under Impact BIO-1. Please also refer to Appendix C, which includes additional information about the potential for special-status species to occur at the project site.

Species mentioned in public comments that are not expected to occur within the project site, nest in the vicinity, or to be affected by the project include:

- California least tern (*Sternula antillarum browni*), state and federally endangered, state fully protected
- White-tailed kite, California species of special concern, state fully protected
- Monarch butterfly (*Danaus plexippus*), proposed for listing as federally threatened[81,82]

For additional information, please refer to Appendix C.

The Large marble butterfly (Euchloe ausonides), which was mentioned in scoping comments, is a species petitioned for federal listing that is currently under review by the USFWS.[83] This species is not currently regulated or considered to have special status and thus is not included in Appendix C.[84]

CDFW requested a discussion of hydroacoustic impacts and provided recommendations for mitigation. For hydroacoustic impacts, please refer to Impact BIO-1 and Mitigation Measure BIO-1(d). CDFW also requested a discussion about dredging impacts. Please refer to Impact BIO-1. Finally, CDFW provided comments requesting an evaluation of impacts on eelgrass. Please refer to Section 3.3.2, *Environmental Setting.*

Other organizations and individuals provided comments related to potential impacts on migratory birds, habitat, whale strikes, and impacts from lighting, wake, vehicle traffic, boat traffic, noise, turbidity, and tree removal. Please refer to Impacts BIO-1, BIO-2, BIO-3, and BIO-5 for a discussion of these impacts.

[81] Please note that the USFWS identifies the following: "Monarch butterflies may be struck by vehicles and killed during normal driving activities. Based on analysis of the best available science, we found that vehicle mortality does not have significant impact on the monarch butterfly population as a whole."
[82] USFWS. 2025. Questions and answers: Proposal to list the monarch butterfly as threatened under the Endangered Species Act. Available: https://www.fws.gov/question-answer/questions-and-answers-proposal-list-monarch-butterfly-threatened-under-endangered (accessed October 2025).
[83] USFWS. 2025. 90-Day Findings for Eight Species. Notification of petition findings and initiation of status reviews. Proposed Rule. Federal Register 90(12): 7038-7043. Available: https://www.federalregister.gov/documents/2025/01/21/2025-01118/endangered-and-threatened-wildlife-and-plants-90-day-findings-for-eight-species. (accessed February 2026)
[84] This species has no legal protections and is not tracked in CNDDB by CDFW. While there are some iNaturalist observations in nearby parks and preserves, the most recent observation is from 2021 and the project site is heavily disturbed by anthropogenic use and does not contain significant undisturbed vegetation communities that would provide suitable habitat for this species. Thus, potential for this species to occur is low.

Specific Threshold of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of biological resources impacts resulting from implementation of the proposed project.

- Result in direct take or habitat removal or alteration for candidate, sensitive, or special-status species.
- Cause injury or mortality to fish and aquatic mammals by increasing underwater noise.
- Degrade water quality through disturbance of sediment underwater or release of pollutants such that habitat or health of aquatic species are adversely affected.
- Adversely affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW, NMFS or USFWS.
- Remove, fill, or damage a federally protected wetland.
- Interrupt fish movement in the San Francisco Bay or impede migratory bird species movement via the Pacific Flyway.
- Remove, damage, or replace trees designated as protected by the City of Berkeley Tree Ordinance, including coast live oak trees and any trees growing in or on any street, parking strip, public square, park or playground.
- Conflict with the provisions of an applicable habitat conservation plan.

Impact Evaluation

Special-status Species

Significance Criterion a:	Would the proposed project 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 Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-1 THE PROJECT COULD RESULT IN DIRECT OR INDIRECT IMPACTS TO SPECIAL-STATUS SPECIES OR THEIR ASSOCIATED HABITATS INCLUDING IMPACTS TO MIGRATORY BIRD NEST SITES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION

Construction

TERRESTRIAL

Special-status Plants

The terrestrial portion of the project site includes developed and landscaped areas. Due to the level of existing development, no special-status plant species are expected to occur or would be affected by construction of the proposed project.

Special-status Wildlife

Northwestern Pond Turtle, Double-Crested Cormorant, and Nesting Birds

Northwestern pond turtle (federally proposed threatened, SSC) has a low potential and double-crested cormorant (CDFW Watch List) has a moderate potential to occur in terrestrial portions of the project site. Nesting special-status bird species and/or nesting birds protected under the MBTA and CFGC have potential to occur in the project site during the nesting season.

Northwestern pond turtle may occur at the mouth of Strawberry Creek and while unlikely, if present, may move through upland areas on the project site adjacent to Strawberry Creek. No impacts are expected to the Creek or northwestern pond turtle aquatic habitat, but there is a low probability that turtles may move into adjacent upland areas that intersect with the project site. Direct impacts to northwestern pond turtle could occur if individuals are moving through the work area during road construction in the vicinity of Strawberry Creek. Construction activities in this area could result in injury or mortality to pond turtles through collisions with construction equipment. Impacts to northwestern pond turtle would be potentially significant and Mitigation Measures BIO-1(a) and BIO-1(b) would be required.

Construction activities would include removal of trees that may provide nesting and roosting habitat for native birds, including double-crested cormorant and raptors. Additionally, birds may nest or roost in trees or structures on the project site and in the project vicinity. The project could result in direct mortality through removal of active nests or increased disturbance levels (i.e., construction noise and activity) that cause nest abandonment. Project construction activities would generally take place between the hours of 7:00 A.M and 7:00 P.M. on weekdays and 9:00 A.M. and 8:00 P.M. on weekends and holidays, in compliance with the City of Berkeley's Municipal Code, and would primarily occur during the daytime, which would limit the potential for construction-related nighttime noise impacts. However, due to constructability constraints that require some work to be completed under a single mobilization, limited nighttime work may be required for specific activities such as pile driving. Nighttime construction noise has the same potential to adversely affect nesting birds by increasing disturbance levels, disrupting normal behavioral patterns, and causing nest abandonment. Impacts on nesting birds would be considered potentially significant.

However, implementation of Mitigation Measures BIO-1(a), BIO-1(b), and BIO-1(c) would require a Worker Environmental Awareness Program, as well as preconstruction surveys for, and avoidance of northwestern pond turtle and nesting birds. These mitigation measures would reduce construction-related impacts to terrestrial special-status species (i.e., northwestern pond turtle) and birds protected under the MBTA and CFGC to less than significant after mitigation.

Lighting Impacts

Nighttime construction lighting has the potential to disturb nesting birds and terrestrial wildlife. As described in Section 2, *Project Description,* and Section 3.1, *Aesthetics*, construction activities would largely occur during the daytime; nighttime illumination would be restricted to the minimum needed for safety during pile-driving and for security at staging yards. Nighttime work is not expected to exceed 50 nights. With implementation of Mitigation Measure AES-1, any required nighttime lighting for project construction would be confined to the immediate work area (e.g., the active pile installation location), would be temporary, and would use fully shielded fixtures that direct light downward and toward the work zone. Therefore, the project would not introduce a substantial new source of light capable of affecting nesting birds or terrestrial wildlife in the area. Impacts would be less than significant after mitigation.

MARINE

Special-status Fish

The following analysis applies for the following species: green sturgeon - Southern DPS; white sturgeon non-breeding; chinook salmon - Sacramento River Winter-Run ESU non-breeding; Pacific lamprey; longfin smelt - San Francisco Bay-Delta DPS; steelhead - Central California coast DPS non-breeding; steelhead - Central Valley DPS non-breeding; and chinook salmon - Central Valley spring-run ESU non-breeding.

Pile Driving Noise

As discussed in Section 2, *Project Description*, the proposed project would require demolition of the existing pier using a dead pull method or a vibratory hammer. The landside retaining wall and new pier piles would require a combination of vibratory and impact pile driving.

Direct effects to fish species such as steelhead, chinook salmon, green sturgeon, and others could occur in the form of injury and/or mortality due to use of the vibratory hammer and cable system to remove pier pilings if fish were present at the time, and if sound levels are above that which can cause injury or death in fish. The *Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities*[85] identifies the threshold for physical injury in fish from pile driving (including vibratory hammers) noise (see Table 3.3-1).

Table 3.3-1 NOAA Fisheries Accepted Noise Criteria for Effects on Fishes

Fish Size	Injury Limit Impulsive Peak SPL	Injury Limit Impulsive Accumulated cSEL	Behavioral Limit Impulsive Single Strike RMS*
Fish less than 2 grams in weight	206 dB	183 dB	150 dB
Fish more than 2 grams in weight	206 dB	187 dB	150 dB

Source: California Department of Transportation. 2020. Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual-a11y.pdf. (accessed February 2026)

Notes: dB = decibel; Peak SPL = peak unweighted sound pressure level with reference to 1µPa; cSEL = cumulative sound exposure level over a 24-hour period, with a reference value of 1µPa2s; RMS = Root Mean Square is the square root of the sum of the squared pressures multiplied by the time and represents the mean pressure contained within a defined period and is termed the effective pressure.

* While not in the interim criteria, the Services have set 150 dB RMS as a guideline for where underwater sound pressure levels may result in behavioral (i.e., sub-injury) effects to fish.

Sound waves generated from in-water construction activities are defined as either impulsive (almost instantaneous), like explosions or impact pile driving, or non-impulsive or continuous, like motors or vibration, and generate different SPLs and frequencies, as well as vary over time and space. Impulsive sounds typically have high amplitude but a short duration while continuous sounds generally have lower amplitude but longer duration. The three SPL metrics commonly used in evaluating hydroacoustic impacts on fish and other protected species are Peak SPL (LPEAK), Root Mean Square (RMS), and sound exposure level (SEL). LPEAK is the maximum SPL measured in dB referenced to 1 µPa and represents species exposure to high SPL pulses that can result in injury or modified behavior of fish and wildlife from the compression or expansion of fluid filled membranes. RMS is the square root of the sum of the squared pressures multiplied by the time increment and divided by the impulse duration and represents the mean (average) pressure contained within a

[85] Fisheries Hydroacoustic Working Group. 2008. Memorandum Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities. June 12.

defined period, typically calculated over the period of the pulse that contains 90 percent of the acoustical energy and is termed the "effective pressure". Cumulative SEL (SELcum or cSEL) is calculated by summing the cumulative pressure squared over the time of the event and represents the cumulative sound exposure level a species experiences over the duration of an activity. SELcum is used to quantify injury limits to fish associated with acute barotrauma to hearing structures or internal organs. Most sounds are composed of many different frequencies, referred to as the frequency spectrum. Frequency spectra are important, because the frequency components of the sound may affect the way wildlife respond to and are affected by the sound (in terms of physical injury [hearing loss] as well as behavior). The frequency spectrum is also important when analyzing sound propagation characteristics and ultimately the effect range to species.

Review of the predicted sound levels generated from the anticipated pile driving activities for each of the pile types and sizes shows that impact pile driving of the 36-inch steel pipe piles would result in exceedance of the Level A-injury criteria for instantaneous peak sound pressure levels (L_{Peak}) for all eight of the special-status fish species of concern within a 10 meter buffer. However, the anticipated pile driving (both impact and vibratory) of the 24-inch concrete piles, 48-inch concrete sheet piles, 24-inch and 36-inch steel pipe piles would not exceed the instantaneous peak (L_{Peak}) limit for fish but would exceed the cumulative sound level (SEL_{CUM}) injury limit for fish under 2 grams (183 dB SEL), fish over 2 grams (187 dB SEL), and the single strike behavioral effect limit (150 dB RMS) for both fish groups. At this 150 dB RMS threshold for continuous sound, behavioral effects are expected only within about 200 meters of the pile-driving location. Because these levels surpass the NOAA interim criteria, impacts to fish as a result of pile driving and vibratory hammers would be considered potentially significant.

However, Mitigation Measure BIO-1(a) and BIO-1(d) would be required. Mitigation Measure BIO-1(a), which requires a Worker Environmental Awareness Program (in part to support implementation of Mitigation Measure BIO-1(d)), and Mitigation Measure BIO-1(d), which dictates seasonal work windows, soft-start and ramp-up procedures, exclusion zones, and sound attenuation measures during pile driving, would reduce impacts related to special-status fish to less than significant with mitigation. In addition, the City would consult with NOAA Fisheries and CDFW during the permitting process.

Pile Driving and Dredging Water Quality

Impacts on water quality (e.g., turbidity, suspended sediment) could also occur during pile driving and dredging, and could affect fish species by reducing visibility, impairing foraging ability, or clogging gills. Mechanical dredging can increase suspended sediment above background levels by 10 to 400 mg/L, with an average of 60 mg/L.[86] The Long Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region (LTMS) includes best management strategies, such as work windows and review of dredging equipment stability by project site, to limit environmental impacts. Indirect impacts to substrate or benthic prey could also occur from project activities. Turbidity from in-water project activities would be temporary and localized, and turbidity plumes are expected to disperse quickly due to tidal currents. Additionally, as discussed in Section 3.8 *Hydrology and Water Quality*, studies conducted in San Francisco Bay indicate that turbidity generated by dredging activities, which is typically more intensive than pile installation or removal, diminishes to background levels within a radius of approximately 600 feet within one tidal cycle for

[86] Los Angeles Contaminated Sediments Task Force. 2003. Literature Review of Effects of Resuspended Sediments Due to Dredging Operations. Prepared by Anchor Environmental. June. Available: https://coastal.ca.gov/sediment/Lit-ResuspendedSediments.pdf. (accessed February 2026)

singular events.[87] Because Bay waters are naturally highly turbid and experience substantial fluctuations from tides, wind-driven waves, and regional sediment transport, the temporary turbidity generated by the project would be unlikely to affect foraging fish or clog gills, as these species are highly mobile and can readily avoid localized turbidity plumes. Additionally, impacts could occur if spills or leaks were allowed to enter marine habitats. Dredging would be subject to the Long Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region[88] and associated incidental take permit (November 30, 1998); recommendations to the LTMS Environmental Work Windows from CDFW (September 11, 2020); and Endangered Species Act consultations with USFWS (May 28, 2004 and February 7, 2025) and NMFS (July 20, 2015).

Dredging activities would utilize mechanical methods (clamshell) and follow Dredge Material Management Office[89] (DMMO)[90] processes including a Sampling and Analysis Plan detailing sampling and testing protocols outlined by the USACE and USEPA. The shallow nature of the project site and the proposed design dredge depth would result in only short-term temporary impacts to water quality and benthic infaunal communities. Impacts to fish as a result of turbidity and water quality would be considered potentially significant.

However, Mitigation Measure HYD-1 would be required. Mitigation Measure HYD-1 would reduce the potential for adverse effects to water quality during pier demolition by requiring implementation of additional best management through the Stormwater Pollution Prevention Plan (SWPPP) to prevent the discharge of debris, construction materials, and accidental spills into the Bay. With the implementation of Mitigation Measure HYD-1, impacts would be less than significant with mitigation.

The City would obtain all applicable permits from the DMMO prior to dredging activities.

Dredging Noise

As discussed in Section 2, *Project Description*, 400,000 cubic yards of dredged materials would be generated and would require disposal. In-water noise associated with the dredging portion of the construction phase would be comparable to the noise levels produced during the City's federally authorized dredging at the mouth of Berkeley Yacht Basin. Noise generated by dredging would be short-term and temporary. Impacts to fish as a result of dredging noise would be potentially significant and Mitigation Measure BIO-1(a) and BIO-1(d) would be required. Mitigation Measure BIO-1(d) requires seasonal restrictions for dredging to avoid potential impacts on special-status fish. Given the temporary nature of dredging noise and the seasonal restrictions, impacts would be less than significant with mitigation.

In addition, the City would consult with NOAA Fisheries and CDFW during the permitting process.

[87] US Army Corps of Engineers. (2015). Dredging and Dredged Material Management. Engineer Manual. Washington, DC. Available: https://budm.el.erdc.dren.mil/guidance/EM_1110-2-5025.pdf. (accessed February 2026)
[88] BCDC. 2021. Dredger's Handbook: A Testing, Permitting, and Reporting Guide for Maintenance Dredging in the San Francisco Bay. Available: https://www.bcdc.ca.gov/wp-content/uploads/sites/354/2023/09/Long-Term-Management-Strategy_Dredgers-Handbook.pdf (accessed October 2025).
[89] The DMMO is a joint program of the San Francisco Bay Conservation and Development Commission, San Francisco Regional Water Quality Control Board, State Lands Commission, the San Francisco District U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency. The California Department of Fish and Wildlife, the National Marine Fisheries Service, and the Fish and Wildlife Service also participate in the DMMO program to provide expertise.
[90] U.S. Army Corps of Engineers. N.d. Dredged Material Management Office (DMMO). Available: https://www.spn.usace.army.mil/Missions/Dredging-Work-Permits/Dredged-Material-Management-Office-DMMO/ (accessed February 2026).

Special-status Marine Mammals

The following analysis applies for the following species: harbor seal; California sea lion, harbor porpoise; common bottlenose dolphin, gray whale, and humpback whale.

Pile Driving Noise

Similar to fish, impact pile driving of the 24-inch concrete piles, 48-inch concrete sheet piles, 24-inch and 36-inch steel pipe piles would all exceed marine mammal cumulative SPL (SEL_{cum}) Level A -injury effect levels, in the near field, and the Level B -Harassment effect levels at various distances in the far field (at distance). Cumulative SPL Level A -injury and Level B -Harassment effect distances vary depending on the hearing sensitivity of the different marine mammal hearing groups, pile type, size, and driving method.

At the 120 dB RMS non-impulsive sound source threshold, behavior effects are estimated to be within approximately 5,000 meters (5 kilometers or 3.1 miles). The most sensitive underwater limits of various marine mammal hearing groups include high-frequency cetaceans (e.g., harbor porpoises), which are sensitive to both impulsive and non-impulsive sound exposure at 159 dB/181 dB, and a peak limit of 202 dB. Moderately sensitive groups include Phocid pinnipeds (e.g., harbor seals), which are sensitive to both impulsive and non-impulsive sound exposure at 183 dB/195 dB, and a peak limit of 230 dB, and low-frequency cetaceans (e.g., gray whale and humpback whale). The least sensitive groups include Otariid pinnipeds (e.g., sea lions), which are sensitive to both impulsive and non-impulsive sound exposure at 185 dB/199 dB, and a peak limit of 222 dB.[91] Sound propagation in the shallow, semi-enclosed waters of San Francisco Bay is expected to attenuate more rapidly than in deeper oceanic environments; therefore, these distance estimates are considered conservative.

No regular haul out sites for marine mammals occur in the project vicinity, but harbor seal and California sea lion may use docks at the Berkeley Marina and narrow beaches along the shoreline to the south of the project site to haul out. In-air acoustic thresholds cause behavioral disruption (Level B) at 90 dB RMS for harbor seals and 100 dB_{RMS} for California sea lion;[91] therefore, these species could be subject to harassment from in-air noise from pile driving that exceeds these thresholds.

Table 3.3-2 summarizes the hearing sensitivity thresholds established by NOAA Fisheries (2018) for each marine mammal hearing group.**[92]** These thresholds represent the onset levels for permanent threshold shifts (PTS), which are the sound levels at which auditory injury can occur.

[91] NOAA. 2024. Update to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0) Underwater and In-Air Criteria for Onset of Auditory Injury and Temporary Threshold Shifts Office of Protected Resources National Marine Fisheries Service Silver Spring, MD 20910. NOAA Technical Memorandum NMFS-OPR-71 October 2024.

[92] The 2018 NOAA Fisheries Technical Guidance was utilized for the effects thresholds in this section; however, the 2024 Updated Technical Guidance, which was released after initiation of preparation of this Draft EIR, was reviewed to ensure relative consistency. The Updated Technical Guidance does not address or change NOAA Fisheries application of the criteria in the regulatory context, but only updated NOAA Fisheries criteria based on the most recent science. The use of the 2018 Technical Guidance does not affect the overall conclusions related to hydroacoustics impacts on fish or marine mammals.

Table 3.3-2 NOAA Fisheries Marine Mammal Permanent Threshold Shifts – Level A Injury Limits

Hearing Group (Hearing Range/Weighting)	Accumulated SEL (cSEL)Limit		PeakLimit
	Impulsive[1]	Non-impulsive[2]	Impulsive[1]
Low-Frequency Cetaceans (LF 7 Hz. to 35 kHz.)	183 dB	199 dB	219 dB
Mid-Frequency Cetaceans (MF 150 Hz. to 160 kHz.)	185 dB	198 dB	230 dB
High-Frequency Cetaceans (HF 275 Hz. to 160 kHz.)	155 dB	173 dB	202 dB
Phocid Pinnipeds (PW 50 Hz. to 86kHz.)	185 dB	201 dB	218 dB
Otariid Pinnipeds (OW 60 Hz. 39 kHz.)	203 dB	219 dB	232 dB

Source: NOAA. 2018. Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Dept. of Commerce., NOAA. NOAA Technical Memorandum NMFS-OPR-59

Notes: dB = decibel; cSEL = cumulative sound exposure level over a 24-hour period, with a reference value of $1\mu Pa^2s$; Peak = peak unweighted sound pressure level with reference to 1µPa

[1] Permanent Threshold Shift (PTS)/injury dual metric threshold for impulsive sources such as impact pile driving, use whichever metric results in the largest isopleth (e.g., seismic air guns, impact pile driving).

[2] Permanent Threshold Shift (PTS)/injury threshold for non-impulsive sources (e.g., vibratory pile driving, drilling).

Using these NOAA-defined criteria, project-specific sound modeling was conducted to estimate the distances at which each hearing group could experience behavioral disturbance (Level B harassment) or auditory injury (Level A PTS) during different pile-driving activities. These results are presented in Table 3.3-3 below. For context, Table 3.3 3 also includes a screening-level estimate of effect distances for clamshell dredging noise to illustrate the localized nature of dredging-related in-water noise in the project vicinity; these dredging distances are not used to define monitoring or exclusion zones. Impacts on marine mammals as a result of pile driving and vibratory hammer use would be considered potentially significant.

However, Mitigation Measure BIO-1(a) and BIO-1(d) would be required. Mitigation Measure BIO-1(d) requires implementation of soft-start and ramp-up procedures, monitoring, and exclusion zones based on the most current NMFS-approved guidance to avoid and minimize marine mammal exposure to pile-driving noise. Implementation of these measures would reduce construction-related, pile-driving noise impacts related to special-status marine mammals to less than significant with mitigation.

In addition to these mitigation measures, the City would consult with NMFS to determine if an IHA would be needed.

Table 3.3-3 Marine Mammal Hearing Group Pile Driving Effect Distances

In-Water Construction Specifics			Low-Frequency Cetaceans (Whales)		Mid-Frequency Cetaceans (Common Bottlenose Dolphin and Harbor Porpoise)		Phocid Pinnipeds (Harbor Seal)		Otariid Pinnipeds (California Sea Lion)	
Location	Pile Type/Action	Installation/Removal Method (dB****)	Behavior Effect Distance (m)	Injury Effect Distance (m)	Behavior Effect Distance (m)	Injury Effect Distance (m)	Behavior Effect Distance (m)	Injury Effect Distance (m)	Behavior Effect Distance (m)	Injury Effect Distance (m)
Landside/Shoreline Retaining Wall	24-inch Steel Pipe Pile	Vibratory Pile Driving (non-impulsive), 170 dB	5,000*	43.2	5,000*	3.8	5,000*	26.2	5,000*	1.8
		Impact Pile Driving (impulsive), 194 dB	700**	632.2	700**	22.5	700**	338.3	700**	27.8
Universal Charging Float Guide and Donut Piles	36-inch Steel Pipe Pile	Vibratory Pile Driving (non-impulsive), 180 dB	5,000*	83	5,000*	7.4	5,000*	50.5	5,000*	3.5
		Impact Pile Driving (impulsive), 193 dB	700**	612.2	700**	21.8	700**	327.6	700**	23.9
Pier, Landing Platform, and Breakwall	24-inch Octagonal Prestressed Concrete Pile	Impact Pile Driving (impulsive), 178 dB	120**	80.2	120**	2.9	120**	42.9	120**	3.1
Breakwall	48-inch X 14-inch Concrete Sheet Pile	Impact Pile Driving (impulsive), 176 dB	250**	172.6	250**	6.1	250**	92.3	250**	6.7
Pier and Adjacent Channel	Clamshell Dredge***	non-impulsive, 136 dB	100	10	100	10	100	10	100	10

* Approximate maximum distance to 120 dB RMS non-impulsive sound level based on NOAA Worksheet

** Approximate maximum distance to 160 dB RMS impulsive sound level based on NOAA Worksheet

*** Clamshell dredge distances are screening-level estimates provided for context and are not used to establish monitoring or exclusion zones.

****Using the Root Mean Square (RMS) Sound Pressure Level (SPL) Source Level at 10 meters. Marine mammals are not expected to occur 10 meters from pile driving activities.

Pile Driving and Dredging Water Quality

Impacts on marine mammals could also occur as a result of construction if water quality were negatively affected. Similar to special-status fish, impacts to water quality as a result of increased turbidity and/or chemical spills could occur during pile driving, dredging, or construction. However, such turbidity and water quality effects would be temporary, localized, and would dissipate rapidly under tidal mixing conditions. Marine mammals do not respire underwater and are highly mobile, and therefore would not be adversely affected by short-term, localized increases in turbidity or suspended sediments. Therefore, construction-related impacts on special-status marine mammals as a result of turbidity and water quality related to pile driving and dredging would be less than significant.

Dredging Noise

Impacts on marine mammals from dredging during construction would be similar to the impact on fish, and include noise and reduced visibility. The project would be subject to the Long Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region[93] and associated incidental take permit from CDFW (November 30, 1998), and Endangered Species Act consultations with USFWS (May 28, 2004 and February 7, 2025) and NMFS (July 20, 2015). Mechanical clamshell dredging could generate non-impulsive, short-term, and localized noise, and marine mammals are mobile and would be expected to avoid localized areas of disturbance. Therefore, impacts on marine mammals as a result of dredging noise during construction would be less than significant.

Mitigation Measure BIO-1(d) would still apply to in-water work during construction, including dredging, and provides general impact-avoidance requirements for fish and marine mammals. In addition to the above requirements, the City would consult with NMFS to determine if an IHA would be needed.

Harassment

Marine mammals such as harbor seal forage and pass through waters within the project site and surrounding area and may haul out in the vicinity of the project site. If individuals are present during construction, they may be disturbed by pile driving and tug boat operations, which could alter behavior and disrupt normal activities. These impacts would be considered harassment and, thus, be potentially significant.

In addition to the Worker Environmental Awareness Program required under Mitigation Measures BIO-1(a), implementation of BIO-1(d), BIO-1(e), and HYD-1 would also be required to mitigate impacts on marine mammals during construction. The MMMP developed under BIO-1(e) would apply the project's hydroacoustic analysis to establish Level A and Level B protection zones and integrate these with the soft-start procedures and observation protocols identified in Mitigation Measure BIO-1(d). These measures would require soft-start techniques, a sound curtain, buffer zones, and biological monitoring to address impacts due to pile driving noise. Mitigation Measure BIO-1(d) would ensure that any impacts to marine mammals would avoid injury and be limited to behavioral impacts, and would thus be less than significant. Mitigation Measure HYD-1 would reduce negative effects to water quality from pile driving and dredging by requiring best

[93] BCDC. 2021. Dredger's Handbook: A Testing, Permitting, and Reporting Guide for Maintenance Dredging in the San Francisco Bay. Available: https://www.bcdc.ca.gov/wp-content/uploads/sites/354/2023/09/Long-Term-Management-Strategy_Dredgers-Handbook.pdf (accessed October 2025).

management practices be incorporated into the SWPPP. Finally, Mitigation Measure BIO-1(e) would require marine mammal monitoring and buffer distances to avoid potential harassment of marine mammals. With implementation of these mitigation measures, construction-related harassment impacts related to special-status marine mammals from pile driving and tug boat operations would be less than significant with mitigation.

In addition to these mitigation measures, the City would consult with NMFS to determine if an IHA would be needed.

Operation

TERRESTRIAL

Special-Status Wildlife

The proposed project would primarily occur withing existing developed areas, and would not involve significant new levels of disturbance to the mouth of Strawberry Creek, the sole location of suitable habitat for northwestern pond turtle within the project site. This species is typically found in slow, calm waters of ponds and lakes with basking sites and emergent vegetation, but is not typically found outside of ponds or lakes or out in the open waters of the San Francisco Bay. Therefore, impacts on northwestern pond turtle due to operation would be less than significant.

Impacts on nesting birds, including double-crested cormorant, from operation would also be minimal. Any additional lighting added as part of the project, as discussed in *Section 3.1, Aesthetics,* under Impact AES-4, would be designed in accordance with City ordinance, and would be similar to existing levels of lighting present on the project site. The ferry would operate in open water, and the existing use of the project site for recreation would continue with similar levels of activity and disturbance. Wake generated by ferry operation would be consistent with existing vessel operations in the Bay and not result in disturbance to nesting or roosting habitats above the existing shoreline riprap armoring. Therefore, impacts on nesting birds due to operation would be less than significant.

Operation of the project would introduce additional vehicles to the project site; however, the overall flow of traffic would be similar to the existing setting of the project site, which has roadways and parking lots with vehicles moving throughout the project site. Therefore, the vehicle traffic from the project site would result in less than significant impacts on special-status species. Similarly, the noise associated with operation of the project would be similar to the existing setting. Therefore, noise impacts to special-status species from operation of landside project elements would be less than significant.

MARINE

As noted above, WETA adopted the Expansion of Ferry Transit Service in the San Francisco Bay Area Program Mitigation Monitoring Plan which addresses operation of ferry vessels throughout San Francisco Bay.

Special-status Fish

Operation of ferry vessels would result in limited disturbance to marine habitats potentially supporting special-status fish. The electric ferry vessels are expected to generate substantially less noise than traditional diesel engines, especially lower frequency sounds. Underwater noise measurements made of various hybrid electric and conventional ferry vessels indicate that a ship retrofitted with electric motors, generators, and batteries (Tellus) radiated less underwater noise

than a ship with a conventional diesel propulsion system (Neptunus). A report from 2024 prepared by Silent@Sea notes the following: "according to our measurements, Tellus radiates less underwater noise than Neptunus, with up to 10 dB [difference].” A 10dB difference is a halving of noise, as if a wall or barrier has been put in place. The report states: “This is an indication that retrofitting ships with modern hybrid propulsion is a potential way to reduce their noise radiation.”[94] Additionally, operation of ferry vessels would occur at the surface, where fish could easily avoid vessels and noise. Artificial lights on the ferry would be consistent with existing lighting on vessels that travel in the project area and lighting installed on the dock could have potential to attract fish and their predators, but the slow speeds required for docking vessels would allow animals to safely swim out of the way. Thus, any additional lighting would have a less than significant impact. Therefore, impacts on special-status fish due to operation of ferry vessels in the project area would be less than significant.

Special Status Marine Mammals

Similar to the discussion regarding impacts of additional project lighting on fish above, no significant impacts are expected due to project lighting.

While the electric ferry vessels would introduce a new noise source, they would generate significantly less noise, especially at lower frequency sounds, than traditional diesel engines. Underwater noise measurements made of various hybrid electric and conventional ferry vessels indicate that a ship retrofitted with electric motors, generators, and batteries (Tellus) radiated less underwater noise than a ship with a conventional diesel propulsion system (Neptunus). A report from 2024 prepared by Silent@Sea notes the following: "according to our measurements, Tellus radiates less underwater noise than Neptunus, with up to 10 dB [difference].” A 10dB difference is a halving of noise, as if a wall or barrier has been put in place. The report states: “This is an indication that retrofitting ships with modern hybrid propulsion is a potential way to reduce their noise radiation.”[95] Therefore, in-water noise impacts on marine mammals due to operation of ferry vessels would be less than significant.

The east side of the Central Bay (north of the South Bay and south of the Golden Gate Strait, which connects to the Pacific Ocean), which comprises the project vicinity is generally shallow with a flat bottom and -30.0 to 3.2 feet MLLW.[96] In contrast, the Golden Gate Strait exceeds 300 feet in depth and supports more frequent sightings of larger marine mammals such as whales and dolphins. Therefore, marine mammal activity, particularly for whales, is expected to be lower in the project vicinity than elsewhere in the Bay.

Operation of ferry vessels would occur at the surface level, and the project proposes to operate two vessels on the weekday route between the Berkeley terminal and San Francisco, and one vessel for Larkspur, and one vessel for San Francisco on the weekends. New ferryboat trips would include eight peak-direction ferry trips in the morning (Berkeley to San Francisco) and six in the evening, and

[94] Silent@Sea. 2024. Noise from ships powered by LNG or electricity and its effects: a cross-domain investigation Final report of the Silent@Sea project. Swedish Environmental Research Institute.
[95] Silent@Sea. 2024. Noise from ships powered by LNG or electricity and its effects: a cross-domain investigation Final report of the Silent@Sea project. Swedish Environmental Research Institute.
[96] AECOM. 2016. San Francisco Bay Tidal Datums and Extreme Tides Study. Available: https://www.adaptingtorisingtides.org/wp-content/uploads/2016/05/20160429.SFBay_Tidal-Datums_and_Extreme_Tides_Study.FINAL_.pdf. (accessed February 2026)

eight peak direction trips in the afternoon (San Francisco to Berkeley) and six in the morning during the week, and six round trips between Berkeley and Larkspur throughout the day on the weekend.[97]

The San Francisco Bay Ferry, operated by WETA, currently has 17 vessels and runs multiple transbay routes connecting cities like Alameda, Oakland, Richmond, Vallejo, and South San Francisco to San Francisco and carried 279,000 riders in May 2025.[98] The San Francisco Bay is also a major port for commercial shipping, with the Port of Oakland receiving 99 percent of containerized goods in northern California and received the ninth-highest number of containers among major seaports in the United States in 2021.[99] The San Francisco Bay is also popular for recreational boaters.

As described in Section 3.3.3, *Regulatory Framework*, WETA has analyzed the potential impacts related to whale strikes from the expansion of ferry transit. Since 2003, WETA has worked closely with the Marine Mammal Center to develop and implement a multi-layered marine mammal protection protocol that reflects ongoing technological advances, evolving scientific understanding of best practices, and updated NOAA guidance to ensure its implementation of Mitigation Measures 15.1 and 15.2 in the WETA Program EIR is as robust as possible.

Given the existing setting of the Central Bay, and WETA's ongoing implementation of best practices to reduce the potential for whale strikes per the Mitigation Measures in the 2003 Program EIR, impacts would be less than significant.

Mitigation Measures

MITIGATION MEASURE BIO-1(A): IMPLEMENT WORKER ENVIRONMENTAL AWARENESS PROGRAM PRIOR TO AND DURING CONSTRUCTION

Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program training, conducted by a City-approved qualified biologist, to aid workers in recognizing special-status biological resources that may occur in the project area. This training will include information about northwestern pond turtle, special-status fish, marine mammals, and nesting birds potentially occurring in the project site.

The specifics of this program shall include identification of special-status species and habitats, a description of the regulatory status and general ecological characteristics of special-status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the Worker Environmental Awareness Program and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special-status species.

[97] WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. Prepared by Economic Planning Systems, Inc. March 17. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf. (accessed June 2025).
[98] San Francisco Bay Ferry. 2025. San Francisco Bay Ferry Ridership Surpasses 2019 Levels for First Time. Press Release. June 3, 2025. https://sanfranciscobayferry.com/san-francisco-bay-ferry-ridership-surpasses-2019-levels-for-first-time/ (accessed June 2025).
[99] Vital Signs. 2025. Seaport Activity. SF Bay Area. The Vital Signs initiative is led by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). https://vitalsigns.mtc.ca.gov/indicators/seaport-activity (accessed June 2025).

MITIGATION MEASURE BIO-1(B): CONDUCT NORTHWESTERN POND TURTLE SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

No less than seven days prior to the start of any construction activities within 500 feet of Strawberry Creek (including staging and mobilization), a City-approved qualified biologist will conduct a preconstruction survey for northwestern pond turtle within suitable habitat on the project site as feasible. If any northwestern pond turtle are identified within the work area, they will be allowed to leave the work site on their own. CNDDB Field Survey Forms will be submitted to the CDFW for all special-status animal species observed.

If any northwestern pond turtles are observed by construction personnel within or adjacent to (within 50 feet) the project site, all work within the vicinity of the observation will be halted and the qualified biologist will be notified immediately to evaluate the occurrence and relocate the animal as necessary. Only a qualified biologist will capture and relocate wildlife. Construction personnel are not permitted to handle said animals. If northwestern pond turtles become federally-listed at the time of construction, no individuals shall be handled without approval from USFWS.

A report of all pre-construction survey efforts will be submitted to the City within 30 days of completion of the survey effort to document compliance. The report will include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report will also include for each captured special-status animal, the Universal Transverse Mercator (UTM) coordinates and habitat descriptions of the capture and release sites (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s).

This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.

MITIGATION MEASURE BIO-1(C): CONDUCT NESTING BIRD SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

If ground disturbing project activities begin within the nesting season (February 1 through August 31), then no more than seven days prior to the initiation of project activities, a nesting bird pre-construction survey shall be conducted by a City-approved qualified biologist within the disturbance footprint, plus a 300-foot buffer. During construction within the nesting season, an additional focused survey shall be conducted prior to tree removal to identify active nests with the subject tree(s). If no active nests are observed, no further action would be required. Ground-disturbing project activities that are initiated outside of the nesting season may continue into the nesting season without requiring new nesting bird surveys.

Pre-construction nesting bird surveys shall be conducted by a qualified biologist during the time of day when birds are most active and should be of sufficient duration to reliably conclude presence or absence of nesting birds on the project site and within the designated buffer. A report of the nesting bird surveys results shall be submitted to the City for review and approval prior to clearance for mobilizing equipment. If nests are found, their locations shall be flagged (if possible) and recorded with the use of a GPS unit. Avoidance buffers shall be established around active nests. Depending upon the species, suitable minimum buffers may be 50 feet for non-raptor species and 300 feet for raptor species, or as determined by the qualified biologist based on species sensitivity, construction activities, and other factors.

If active nests are present, all project work shall be conducted outside the established avoidance buffer zone from the nest until it is no longer active. No staging of large equipment shall occur within the avoidance buffer until the qualified biologist confirms that breeding/nesting is complete

and all the young have fledged. If buffer zones are determined to be infeasible, a City-approved qualified biological monitor shall be on site to monitor project activities within the avoidance buffer zones to ensure active nests and nesting birds are not impacted. Nesting bird surveys are not required for project activities that occur between September 1 and January 31. A report of all survey results and any proposed avoidance buffers shall be submitted to the City for review and approval.

This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.

MITIGATION MEASURE BIO-1(D): CONDUCT PILE DRIVING IMPACT AVOIDANCE TO FISH AND MARINE MAMMALS PRIOR TO AND DURING CONSTRUCTION

In-water work, including pile driving and dredging, shall be limited to the window of June 1 through November 30. The soft-start, ramp-up, exclusion-zone and sound attenuation procedures described below apply to pile-driving and pile-extraction activities. A "soft-start" technique will be used to allow fish and marine mammals to vacate the area before the pile driver reaches full power. For vibratory hammers, the contractor will initiate the driving for 15 seconds at reduced energy, followed by a 1-minute waiting period when there has been downtime of 30 minutes or more. This procedure shall be repeated two additional times before continuous driving is started. This procedure would also apply to vibratory pile extraction. For impact driving, an initial set of three strikes would be made by the hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three-strike sets before initiating continuous driving. Pile-driving activity shall not begin at any location if any marine mammal is observed within the applicable safe-zone distance for its hearing group, as defined for the specific pile-driving method (e.g., pile diameter, vibratory or impact installation, and number of piles installed per day). Safe-zone distances shall follow the most current NMFS-approved guidance and the Marine Mammal Monitoring Plan prepared pursuant to Mitigation Measure BIO-1(E). In all cases, a minimum exclusion distance of no less than 10 meters shall be maintained around the pile-driving location. If a marine mammal moves within the safe zone after pile driving has begun, the contractor shall implement the appropriate delay or shutdown as described in Mitigation Measure BIO-1(E). A sound curtain, or bubble curtain, shall be employed during impact pile driving to break up sound waves, as feasible. The sound curtain would consist of a perforated hose laid in a circle to release air bubbles around the pile and diesel impact hammer. Jetting methods using pressurized water and/or wood cushion block methods shall also be employed as feasible to minimize impacts.

If the intensity of the pile-driving activity needs to be increased or a marine mammal is within the safe zone buffer for the activity, pile-driving shall be "ramped-up", which is a slow increase in the intensity of pile-driving. At the start of pile-driving for each pile at all locations, the pile shall be struck once with the hammer and the second pile strike delayed long enough to permit adequate time for any marine mammals within the safe zone to leave the area prior to the start of sustained pile-driving activities.

This measure, including the technique and the size of the safe zone, may be modified or supplemented by permit conditions from applicable regulatory agencies.

MITIGATION MEASURE BIO-1(E): PREPARE MARINE MAMMAL MONITORING PLAN PRIOR TO CONSTRUCTION AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

Prior to construction, the City shall prepare a Marine Mammal Monitoring Plan (MMMP) to avoid and minimize potential adverse impacts on marine mammals during pile driving and tug operations. The MMMP shall implement general guidelines set forth in the MMPA and incorporate the

hydroacoustic modeling results developed for the project to define site-specific protection zones and avoid exposure of marine mammals to underwater sound levels exceeding the most up to date Level A (injury) thresholds identified by NOAA Fisheries. The MMMP shall include the following:

- **Protection and Monitoring Zones**: Using the hydroacoustic modeling results, the MMMP shall define shutdown and disturbance zones for each marine mammal hearing group. These zones will be tailored to the pile type, size, and driving method and will correspond to the Level A and Level B effect distances developed for the project. The plan will describe how these protection zones will be verified and monitored in the field, integrating them with the soft-start and observation procedures described in Mitigation Measure BIO-1(d).
- **Vessel Operation Protocols**: The MMMP shall include vessel-operation measures consistent with the MMPA. Construction vessels under power shall remain at least 300 feet from whales and 150 feet from dolphins, porpoises, seals, and sea lions. When marine mammals are encountered, vessel operators shall reduce speed to no-wake, shift to neutral, and allow the animals to pass safely before resuming operations.
- **On-Site Monitoring and Response**: A qualified biologist shall be present on site, either observing from the pier or aboard a vessel, during all pile-driving and tug operations. The biologist shall document all marine-mammal observations, note behavioral responses, and immediately alert project personnel if a whale enters the modeled harassment distance or comes within 300 feet, or if any other marine mammal enters the modeled harassment distance or comes within 150 feet, whichever is greater. Upon such an observation, the contractor shall implement the appropriate delay or shutdown procedures identified in the MMMP.
- **Adaptive Management and Coordination**: The MMMP shall outline communication and reporting protocols, including stop-work notification procedures and coordination with NMFS Protected Species Division. Results from daily monitoring will be used to assess the effectiveness of the protection zones and adjust them, if needed, in consultation with NMFS.

This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.

MITIGATION MEASURE AES-1: REDUCE NIGHT LIGHTING DURING CONSTRUCTION OF FACILITIES

See Section 3.1, *Aesthetics*, for mitigation measure details.

Level of Significance

Less Than Significant with Mitigation

Sensitive Natural Communities

Significance Criterion b:	Would the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-2 THE PROJECT COULD HAVE A SUBSTANTIAL ADVERSE EFFECT ON SENSITIVE NATURAL COMMUNITIES IDENTIFIED IN LOCAL OR REGIONAL PLANS, POLICIES, OR REGULATIONS, OR BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE OR US FISH AND WILDLIFE SERVICE. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction

There are no terrestrial sensitive natural communities, riparian areas, or critical habitats within, or immediately adjacent to the project site. Therefore, there would be no impact on sensitive terrestrial habitats.

Marine habitats within the project site include EFH for Pacific Coast Salmon, considered HAPC, and critical habitat for the southern DPS of green sturgeon and the Sacramento River winter-run ESU of Chinook salmon. Impacts on sensitive marine habitats could occur during construction due to spills and leaks that may affect water quality or through the introduction of non-native species. Spills and leaks can occur if construction vehicles and equipment are improperly maintained, used, or stored, and could negatively affect water quality and toxicity for marine species. Temporary impacts on EFH and HAPC could also include changes to water quality (e.g., turbidity, pH, dissolved oxygen), increased noise, and other increased human activity during construction. Impacts on water quality would be potentially significant. Additionally, the San Francisco Bay includes several important ports for marine shipping. Therefore, the San Francisco Bay is vulnerable to the spread of invasive species, and has been heavily impacted by non-indigenous species.[100] The introduction of invasive species through dirty equipment or contaminated ballast water could affect habitat quality and degrade EFH, estuaries, and marine and estuarine SAV, including eelgrass beds. Impacts on EFH, estuaries and marine and estuarine SAV would be considered potentially significant.

Mitigation Measures BIO-1(a), BIO-2, and HYD-1 would be required and would reduce impacts to EFH for Pacific Coast Salmon and marine Habitat Areas of Particular Concern by requiring a Worker Environmental Awareness Program, best management practices, and avoidance of invasive species introduction during construction. Therefore, construction impacts related to sensitive marine habitats would be less than significant with mitigation.

Operation

The proposed project includes electric ferryboats, which would limit the potential for accidental fuel spills or leaks within marine habitats during operations. Vessel operators would be required to comply with all USCG and RWQCB requirements for ferry operations including hazardous material handling, spill prevention, route inspections, maintenance, monitoring, and reporting. Additionally, the project's new ferryboat trips occur in the San Francisco Bay, which is a major port for commercial shipping, and existing recreation and ferryboat use. Vessel operators would be required

[100] California Dept. Fish and Game. 2009. A Survey of Non-native Aquatic Species in San Francisco Bay. Final Report. Sacramento, CA.

to comply with all USCG and RWQCB requirements for ferry operations. Therefore, operational impacts related to sensitive marine habitats would be less than significant.

Most invasive marine species in the San Francisco Bay are transported by ballast water via large commercial ships, cargo vessels, and recreational boats.[101] The electric ferryboats proposed by the project do not use ballast water systems. Hull fouling, the buildup of algae and sessile marine invertebrates on a vessel's submerged surfaces, is another common pathway for the spread of marine invasive species. Routine maintenance such as regular hull cleaning, anti-fouling coatings, and dry-dock inspections required for electric ferryboat operations prevent these organisms from accumulating, reducing the potential for vessels to transport invasive species within the Bay. The San Francisco Bay is widely recognized as one of the most heavily invaded estuaries in the world, with more than 230 introduced species documented in the Bay-Delta system.[102] The project would operate only two ferry vessels, with regular service to San Francisco and limited weekend service to Larkspur, resulting in a negligible incremental increase in the already heavily trafficked and highly invaded bay. Given the absence of ballast-water use, the routine hull-maintenance requirements for electric ferryboats, and the negligible increase in boat trips in the broader San Francisco Bay context, the potential for the project to contribute to the spread of marine invasive species would be less than significant.

Mitigation Measures

MITIGATION MEASURE BIO-1(A): IMPLEMENT WORKER ENVIRONMENTAL AWARENESS PROGRAM PRIOR TO AND DURING CONSTRUCTION

See Impact BIO-1 for mitigation measure details.

MITIGATION MEASURE BIO-2: IMPLEMENT INVASIVE SPECIES PREVENTION DURING CONSTRUCTION

The following practices shall be required for on-site construction activities:

- Any in-water fill materials shall be new or not salvaged from areas outside of San Francisco Bay.
- Any pumps or in-water construction equipment that may be needed during construction shall be cleaned and dried for at least 72 hours prior to being used on the project site.
- Tug boats shall not discharge untreated ballast water from outside the San Francisco Bay.

This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.

Level of Significance

Less Than Significant with Mitigation

[101] California State Lands Commission. 2025. 2025 Biennial Report on the California Marine Invasive Species Program. Produced for the California State Legislature by: Raya Nedelcheva, Lina Ceballos Osuna, Jonathon Thompson, Jackie Mackay, Julia Jaques, and Chris Scianni January 2025. Available: https://slcprdwordpressstorage.blob.core.windows.net/wordpressdata/2025/01/2025-MISP-Biennial-Report_webacc.pdf. (accessed February 2026)

[102] Saving the Bay. 2025. KQED Education. Available: https://education.savingthebay.org/an-invaded-estuary/ (accessed February 2026).

Wetlands and Waters

Significance Criterion c:	Would the proposed project have a substantial adverse effect on State or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-3 THE PROJECT COULD HAVE A SUBSTANTIAL ADVERSE EFFECT ON STATE- OR FEDERALLY-PROTECTED WETLANDS OR WATERS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction

FILL AND DREDGING IMPACTS

There are no State or federally protected wetlands or waters within terrestrial areas of the project site. Therefore, there would be no impact on terrestrial wetlands or waters.

The project site occurs within tidal waters of the San Francisco Bay, which are waters of the U.S.; waters of the State; and are regulated by the USACE under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, by the RWQCB under Section 401 of the CWA and Porter-Cologne Act, and by BCDC pursuant to the McAteer-Petris Act.

The project would require a maximum of approximately 400,000 cubic yards of dredging, which would be conducted in compliance with LTMS and associated permits. Sediment sampling conducted under DMMO oversight has indicated that dredged materials are suitable for beneficial reuse, and the City would coordinate with the LTMS agencies to beneficially reuse dredged material to the extent feasible. All dredging and material placement would occur in accordance with applicable regulations and permit conditions to minimize adverse effects on water quality and aquatic habitat.

The project would remove approximately 1,280 linear feet of the existing pier, which is equivalent to approximately 28,160 square feet. The project would install a new pier, breakwater, universal charging floats, and landing ramps and platforms, with an area of approximately 45,210 square feet. Table 3.3-4 provides a summary of the proposed removal and addition of this cover area within tidal waters of the San Francisco Bay. The project would result in a net increase of approximately 17,050 square feet of fill and/or cover area within the San Francisco Bay. The increase in fill and cover within the Bay would result in temporary or permanent loss of tidal waters by area and associated ecological functions and services, which would be a potentially significant impact.

Mitigation Measure BIO-3 would require the removal of additional portions of the existing pier to address project impacts associated with fill and cover in the San Francisco Bay. The City would also obtain the appropriate permits from the USACE, RWQCB, and BCDC; these permits will include avoidance, minimization, and compensatory mitigation requirements to achieve no net loss of jurisdictional waters. Because implementation of Mitigation Measures BIO-3 would result in no net loss of jurisdictional waters, impacts would be less than significant with mitigation.

Table 3.3-4 Proposed Project Estimated Cover Area

Structure	Pile Type	Cover Area (square feet)
Existing Pier	20" Concrete Piles	28,160
New Build		
New Pier, Gangway and Platform, and Breakwater	24" Octagonal Piles	33,525
	48"x14" Prestressed Concrete Sheet Pile (for breakwater)	
Universal Charging Float Guide and Donut Piles	36" Steel Guide Pipe Piles	11,685
	36" Steel Donut Fender Pipe Piles	
Total New Build		**45,210**
Net Change		**17,050**

WATER QUALITY

As discussed under Impact BIO-1 above, demolition of the old pier and construction of the new pier and breakwater could also result in impacts on water quality due to increased turbidity from pile driving and dredging, and accidental spills, which could degrade waters of the U.S. and State, and their beneficial uses and would be considered a potentially significant impact.

However, Mitigation Measure HYD-1 would reduce impacts on tidal waters of the San Francisco Bay by requiring best management practices for water quality. Therefore, construction-related fill and dredging impacts on waters would be less than significant with mitigation.

Operation

SHADING AND SOFT BOTTOM HABITAT IMPACTS

The proposed project would replace the existing pier in place, and would result in additional square feet of shading and loss of soft bottom habitat. This impact would be considered potentially significant.

However, Mitigation Measure BIO-3 would be required to remove additional areas of the existing pier at a ratio of at least 1:1 so that there is no increase in shading or loss of soft bottom habitat. The project would add hard substrate for algal growth, sessile invertebrates, and seaweeds with the creation of the breakwater, which could benefit ecological function. Therefore, operation-related fill shading and soft bottom habitat impacts would be less than significant with mitigation.

IMPACTS FROM FERRY VESSEL WAKE

The Central Bay sees substantial wind-driven waves and wakes from existing marine traffic. The shoreline at the project site is armored with rip-rap that absorbs this energy and would likewise diffuse the wakes of the new electric ferry vessels. The armored shoreline that would be subject to the wakes of the new electric ferry vessels are in good condition, with no failures visible. Because the shoreline is armored and maintained, the added wake energy would not measurably increase erosion, disturb aquatic habitats, or result in loss of jurisdictional waters. Therefore, impacts on jurisdictional waters from the wake associated with ferry vessels would be less than significant.

Mitigation Measures

MITIGATION MEASURE BIO-3: PROVIDE COMPENSATORY MITIGATION FOR LOSS OF JURISDICTIONAL WATERS PRIOR TO OPERATION

The City shall avoid a net loss of jurisdictional waters due to project implementation by demolishing additional portions of the existing pier to offset new fill and cover. Compensatory mitigation shall be required for impacts on tidal waters of the San Francisco Bay to achieve no net increase in Bay fill.

Compensatory mitigation shall be provided at a minimum 1:1 ratio (by square foot of impact) through removal of existing pier piles and decking, as approved by the regulatory agencies. Mitigation may be achieved through removal of additional areas of the existing pier, including the concrete pier deck and pilings. Compensatory mitigation shall be implemented prior to or concurrently with construction of the new pier.

The City shall develop a mitigation plan documenting the existing pier footprint, the proposed pier footprint, and the required additional demolition needed to meet the mitigation goal. This plan shall be developed by a qualified regulatory specialist prior to project construction and submitted to the appropriate agencies for review and approval during permitting.

This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.

Secondary Impacts from Mitigation

Demolition of additional areas of the existing pier as required by Mitigation Measure BIO-3 would result in substantially similar impacts as those evaluated under the proposed project for construction of the new pier. Accordingly, it would not introduce new impact mechanisms, but would incrementally increase the duration and spatial extent of the temporary construction-phase effects already disclosed for the project. Below is a summary of the potential secondary impacts from implementation of Mitigation Measure BIO-3.

The project would require demolition of the existing pier resulting in potentially significant impacts to special-status fish and marine mammals. These impacts are the same as those that would occur from the removal of the pier, just increased in scale. All impacts would remain short-term, localized, and fully mitigated to a less-than-significant level through application of the same measures identified for the project under Impact BIO-1 and Impact BIO-2. In the long term, the additional demolition would be environmentally beneficial because it would remove legacy fill and shading, thereby improving tidal circulation, light penetration, and benthic habitat quality within San Francisco Bay.

The project would require additional construction in order to remove additional portions of the pier. The air quality analysis in Section 3.2, *Air Quality* of this EIR includes conservative assumptions about the construction schedule and demolition volumes that account for additional removal of the pier from Mitigation Measure BIO-3. Therefore, the conclusions identified in Section 3.1, *Air Quality* include the potential emissions from implementation of Mitigation Measure BIO-3. The proposed project would not result in any more emissions beyond those already identified in Section 3.2, *Air Quality.*

With implementation of Mitigation Measure BIO-3, the project would generate more demolition debris than was identified in Section 3.14, *Utilities and Service Systems.* However, as shown in Table 3.14-3 in Section 3.14, *Utilities and Service Systems*, there is more than 146 million cubic yards of remaining landfill capacity across five different landfills that could serve the project. The total volume of solid waste that would be generated by the project is 18,000 cubic yards. This amount does not include the additional solid waste that would be generated by Mitigation Measure BIO-3. The 18,000 cubic yards represents .01 percent of the combined remaining permitted capacity. The additional solid waste that would be generated by Mitigation Measure BIO-3 would represent less than 0.01 percent of available remaining permitted landfill capacity. For this reason, implementation of Mitigation Measure BIO-3 would not create a significant secondary impact related to sufficient landfill capacity.

All other impacts (i.e., aesthetics, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, recreation, transportation, and tribal cultural resources) would be the same or less than what is identified in Chapter 3 of this EIR.

Level of Significance

Less Than Significant with Mitigation

Wildlife Movement Corridors

Significance Criterion d:	Would the proposed project 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?

Impact BIO-4 THE PROJECT WOULD NOT SUBSTANTIALLY IMPEDE WILDLIFE MOVEMENT AREAS OR NATIVE WILDLIFE NURSERY SITES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

TERRESTRIAL

The project site is located within filled Baylands adjacent to marine foraging habitat. Trees within the project site and the closed pier may provide roosting habitat for migratory birds in the Pacific Flyway; however, most of the site is developed for recreational and commercial use (including substantial parking areas) and does not contain sensitive upland, riparian, or marsh areas where terrestrial wildlife movement corridors typically occur. No native wildlife nursery sites (e.g., rookery or den) have been identified within the project footprint or immediate vicinity. The project site is also surrounded by open waters on three sides, limiting the opportunity for terrestrial movement. There would be temporary disturbance to migratory birds during construction, including from the removal of trees (see Impact BIO-5 for a discussion of tree impacts) and demolition of the closed pier; however, these impacts would be localized and suitable foraging, roosting, and nesting habitat in the vicinity of the site would remain available during construction. Therefore, construction impacts related to terrestrial wildlife movement would be less than significant.

MARINE

Demolition of the existing pier and pile driving for construction of the new pier would generate noise and vibration in water that could disrupt fish and marine mammal movement within and in the vicinity of the project. However, the project site is located along the shoreline of the southeast corner of the Central Bay, where the water is shallower than other portions of the Bay (approximately -30 to 3.2 feet MLLW), and approximately 3.75 miles from deeper waters of the Golden Gate Strait.[103] Given the shallow waters within the project site, and its location along the shoreline where no connection to spawning grounds are present, the project site is on the periphery of the migratory corridor for anadromous fish that exists in the San Francisco Bay. The project site is not within a designated or regionally significant movement corridor for anadromous fish migrating between marine and freshwater habitats, or for marine mammals moving between haul-out or breeding sites. Given the localized and temporary nature of construction activity, and the absence of critical movement pathways, construction impacts related to marine wildlife movement would be less than significant.

Operation

TERRESTRIAL

Operation of the project would include vehicles, bicycles, and pedestrians using University Avenue, Seawall Drive, and parking lots. These uses of the project site would be consistent with existing recreation and commercial uses. No new barriers or disturbances to terrestrial wildlife movement are proposed. Therefore, there would be no operational impact related to terrestrial wildlife movement.

MARINE

Operation of ferry vessels would occur at the water surface level, with some incremental increase in ferry boat noise and lighting within the project area. The project proposes to operate two ferry vessels with regular service to San Francisco and weekend service to Larkspur, that are both active shipping ports with existing recreational and ferryboat use. Therefore, the project would represent an incremental increase in existing boat trips on the Bay. Special-status fish and marine mammals, specifically whales, are likely habituated to existing levels of boat trip levels and would avoid new ferry boat service. In addition, as described under Impact BIO-1, WETA would continue to implement best practices to reduce the potential for whale strikes including through the implementation of practices that reflect ongoing technological advances, evolving scientific understanding of best practices, and updated NOAA guidance. Therefore, the minimal increase in operational in-water activities compared to existing conditions represents a less than significant impact related to marine wildlife movement.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

[103] AECOM. 2016. San Francisco Bay Tidal Datums and Extreme Tides Study.

Local Biological Resources Policies or Ordinances Consistency

Significance Criterion e:	Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BIO-5 **THE PROJECT WOULD BE SUBJECT TO THE CITY'S POLICIES AND ORDINANCES PROTECTING BIOLOGICAL RESOURCES, INCLUDING PROTECTED TREES, AND THEREFORE WOULD NOT CONFLICT WITH THEM. FOR OTHER POLICIES RELATED TO PROTECTING BIOLOGICAL RESOURCES, IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.**

Construction and Operation

A total of 61 trees are located on the project site and of these 61 trees, approximately 22 would remain and approximately 39 would be removed. None of the trees are protected coast live oak trees; however, because the 39 trees to be removed are located in streets, parking strips, and public squares, the City of Berkeley Municipal Code, Chapter 12.44 Trees and Shrubs, requires a permit from the City prior to pruning or removal of these trees. A tree removal permit would be included in the construction permit issued by the City. The Berkeley Municipal Code does not require replacement trees. Rather, the City's Urban Forestry Unit evaluates whether tree replacement is required and it is expected that some replacement would be required to maintain canopy cover and the project site's natural aesthetic. As part of the proposed project, between 50 and 70 new trees would be planted. The trees to be planted would be 24-inch box trees and would include the following trees: California Buckeye, Monterey Cypress, Primrose tree, Drooping Melaleuca, and Torrey Pine. With City approval of the tree removal permit, there would be no conflicts with the City's policies, including those pertaining to protected trees and the impact would be less than significant.

In addition to City of Berkeley policies protecting biological resources, there are also policies in the BCDC Bay Plan related to protecting biological resources. As discussed in detail in Impact LU-2 in Section 3.9, *Land Use and Planning,* construction and operation of the project would overall be consistent with the key policies of the BCDC San Francisco Bay Plan with incorporation of identified mitigation measures for biological resources and hydrology/water quality, specifically Mitigation Measures BIO-1(a) through BIO-1(e), BIO-2, BIO-3, HYD-1, and AES-1. Therefore, impacts related to conflicts with local policies or ordinances protecting biological resources would be less than significant with mitigation.

Mitigation Measures

MITIGATION MEASURE BIO-1(A): IMPLEMENT WORKER ENVIRONMENTAL AWARENESS PROGRAM PRIOR TO AND DURING CONSTRUCTION

See Impact BIO-1 for mitigation measure details.

MITIGATION MEASURE BIO-1(B): CONDUCT NORTHWESTERN POND TURTLE SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Impact BIO-1 for mitigation measure details.

MITIGATION MEASURE BIO-1(C): CONDUCT NESTING BIRD SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Impact BIO-1 for mitigation measure details.

MITIGATION MEASURE BIO-1(D): CONDUCT PILE DRIVING IMPACT AVOIDANCE TO FISH AND MARINE MAMMALS PRIOR TO AND DURING CONSTRUCTION

See Impact BIO-1 for mitigation measure details.

MITIGATION MEASURE BIO-1(E): PREPARE MARINE MAMMAL MONITORING PLAN PRIOR TO CONSTRUCTION AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

See Impact BIO-1 for mitigation measure details.

MITIGATION MEASURE BIO-2: IMPLEMENT INVASIVE SPECIES PREVENTION DURING CONSTRUCTION

See Impact BIO-2 for mitigation measure details.

MITIGATION MEASURE BIO-3: PROVIDE COMPENSATORY MITIGATION FOR LOSS OF JURISDICTIONAL WATERS PRIOR TO OPERATION

See Impact BIO-3 for mitigation measure details.

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.

MITIGATION MEASURE AES-1: REDUCE NIGHT LIGHTING DURING CONSTRUCTION OF FACILITIES

See Section 3.1, *Aesthetics*, for mitigation measure details.

Level of Significance

Less Than Significant with Mitigation

Habitat or Natural Community Conservation Plans Consistency

Significance Criterion f:	Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-6 THE PROJECT WOULD NOT CONFLICT WITH THE PROVISIONS OF AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL COMMUNITY CONSERVATION PLAN, OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN. THERE WOULD BE NO IMPACT.

Construction and Operation

The project site is not located within the boundaries of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans for terrestrial or marine habitats. Therefore, construction and operation of the proposed project would not conflict with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan, and no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

3.3.5 Cumulative Impacts

The geographic scope of the cumulative biological resources analysis is the central San Francisco Bay and the immediate vicinities. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, Environmental Impact Analysis).

Special-status Wildlife and Plant Species

Terrestrial

Most of the local cumulative projects would be located in developed urban areas that have limited potential to support terrestrial special-status wildlife and plant species. There are open areas that provide habitat for special-status species of flora and fauna, including César E. Chávez Park, McLaughlin Eastshore State Seashore, Brickyard Cove, Aquatic Park, and the Albany Waterfront. Open space within the cumulative project and project areas are relatively small and generally isolated areas surrounded by urban development. Cumulative projects listed in Table 3-1 consist predominantly of redevelopment of existing facilities including parking, transportation, and recreational facility improvements. Development and projects planned within the cumulative projects area would occur in similar, disturbed habitat common in urban areas. However, due to the presence of habitat for some special-status species in and near Berkeley, including western burrowing owl, monarch butterfly, Crotch's bumble bee and tricolored blackbird, these species also have the potential, albeit low, to occur within the cumulative projects area. Additionally, nesting birds protected by the MBTA, and special-status bat species have the potential to occur within the vicinity of the project. Standard pre-construction surveys and, if necessary, avoidance procedures would be required for cumulative projects with the potential to impact nesting birds and other special-status species. While there are isolated pockets of natural habitat that can support special-status wildlife and plant species, the urban and developed nature of the City as well as the other cumulative projects precludes the possible adverse cumulative impacts to biological resources related to special-status wildlife and plant species. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to terrestrial special-status wildlife and plant species.

Marine

Marine areas within the Central Bay, where the project lies, provide habitat for special-status fish and marine mammals, such as salmonids, whales, dolphins, and seals. Cumulative projects would be required to adhere to existing laws and regulations pertaining to fill and development within the project vicinity and to protection of marine habitats, special-status species, and water quality where cumulative projects have the potential to impact marine habitats. The current level of boat traffic, including existing ferry vessels, container shipping through the Port of Oakland and other smaller ports, and recreational boating, as well as the other cumulative projects within the Berkeley Marina are indicative of a very active environment. Possible adverse cumulative impacts to biological

resources related to marine special-status wildlife species is unlikely because existing activity from these many and varied vessels is such that species are habituated to a high level of activity; therefore, the proposed project would not result in any measurable change to marine special-status wildlife behavior. In general, in proximity to an active waterfront such as the Berkeley Marina, fish are habituated to boating activity. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to marine special-status wildlife.

Sensitive Natural Communities and Waters of the United States and State

Terrestrial

Within the project vicinity, the City of Berkeley contains several creeks and riparian areas that would be considered jurisdictional waters, wetlands, and/or sensitive natural communities. Cumulative projects listed in Table 3-1 consist of predominantly redevelopment or infill projects, including commercial and residential development, and transportation projects. Cumulative development would occur in similar, disturbed habitat common in urban areas. Additionally, no terrestrial sensitive natural communities, freshwater wetlands or waters, or federally designated critical habitats are present within the project site. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to terrestrial sensitive natural communities, associated riparian habitat, or wetlands or waters.

Marine

Marine habitats within the project site and vicinity are EFH for Pacific Coast Salmon, considered HAPC, and critical habitat for the southern DPS of green sturgeon and the Sacramento River winter-run ESU of Chinook salmon. Waters of the San Francisco Bay within the project site are also waters of the U.S. and State under the jurisdiction of the USACE and RWQCB, and BCDC. Cumulative projects would be required to adhere to existing laws and regulations pertaining to fill and development within the San Francisco Bay, and measures to protect marine habitats and water quality. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to marine sensitive natural communities including EFH, HAPC, and critical habitat.

Wildlife Movement Corridors

Terrestrial

Berkeley and its surrounding vicinity contain a variety of creeks and open space areas that act as potential movement corridors for fish and wildlife, including in riparian areas. Any future cumulative development that occurs within the City would have to consider the potential impact on these corridors. Cumulative projects listed in Table 3-1 consist of predominantly redevelopment or infill projects, including commercial and residential development, and transportation projects. Cumulative development would occur in similar, disturbed habitat common in urban areas. The areas surrounding the potential corridors within Berkeley and its surroundings in the Bay Area are highly developed, further impeding the movement of species out from these areas. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to terrestrial wildlife movement corridors.

Marine

The Central Bay in the vicinity of the project contains shallow and deepwater habitats that provide corridors for movement among estuarine and freshwater habitats of the San Francisco Bay. Within the project area there are recreational boaters and commercial boats. Given the existing levels of boat traffic within the Central Bay due to existing commercial boats and recreational boating, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to marine wildlife movement corridors.

Local Biological Resources Policies or Ordinances Consistency

Development may require the removal of or encroachment on certain protected trees as listed by the City of Berkeley ordinances. Cumulative plans and projects listed in Table 3-1 consist of predominantly general plan buildouts, including commercial and residential development, and active transportation projects. Development and projects planned within the cumulative projects area would occur in similar, disturbed habitat common in urban areas. Future projects that occur in or near undeveloped areas may require an arborist report to determine the identity of trees planned for removal or encroachment. Therefore, the project, in conjunction with other cumulative projects, would be required to adhere to applicable tree ordinances and regulations of the City of Berkeley[104] and nearby Cities of Albany[105] and Oakland[106] that require permits for removal of protected tree species (Coast live oak), compliance with species- and size-based protection thresholds, and preparation of arborist reports to evaluate and mitigate impacts related to protected trees. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to protected trees. For a discussion of cumulative impacts related to consistency with the BCDC Bay Plan, please refer to Section 3.9, *Land Use and Planning*.

Habitat or Natural Community Conservation Plans Consistency

Because the project results in no impact related to a conflict with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan; the project could not contribute to a cumulative impact. Therefore, no cumulative impact would occur.

Overall Level of Cumulative Significance

Less Than Significant

[104] Berkeley, City of. 2026. City Trees and the Coast Live Oak Ordinance. https://berkeleyca.gov/city-services/streets-sidewalks-sewers-and-utilities/city-trees-and-coast-live-oak-ordinance (accessed February 2026).
[105] Albany, City of. 2026. City Tree Policy. https://www.albanyca.gov/Departments/Public-Works/Information-Policy/City-Tree-Policy (accessed February 2026).
[106] Oakland, City of. N.d. Oakland, California Code of Ordinances, Chapter 12.36 – Protected Trees. https://library.municode.com/ca/oakland/codes/code_of_ordinances?nodeId=TIT12STSIPUPL_CH12.36PRTR_12.36.160INVI (accessed February 2026).

3.4 Cultural Resources

3.4.1 Introduction

This section describes the existing setting related to cultural resources within the project site and adjacent areas as well as the relevant regulatory framework. This section also analyzes the potential impacts to cultural resources anticipated to result from implementation of the proposed project. Information in this section is based on archival and database research, a California Historical Resources Information System records search, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), bathymetric remote sensing data analysis, and pedestrian field survey results. California Department of Parks and Recreation forms prepared to document the project site and its eligibility as a historical resource are included in Appendix D.

3.4.2 Environmental Setting

Cultural Resources Definitions

The term "cultural resources" under the California Environmental Quality Act (CEQA) encompasses historic and archaeological resources as well as burial sites. Below is a brief summary of each definition:

- **Historical Resources:** Historical resources are resources listed in, or determined eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources or identified in a historical resources survey; or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. Historical resources may include eligible built environment resources of the precontact[1] or historic periods. For the purposes of this section, historical resources are associated with the recent past. Specifically in California, historical resources are typically associated with the Spanish, Mexican, and American periods in the State's history and are generally less than 200 years of age.
- **Archaeological Resources:** Archaeology is the study of artifacts and material culture with the aim of understanding human activities and cultures in the past. Archaeological resources may be associated with precontact indigenous cultures as well as post-contact historic periods.
- **Burial Sites and Cemeteries:** Burial sites and cemeteries are formal or informal locations where human remains have been interred.

Overall Cultural Setting

The following is a brief overview of the indigenous history and post-contact history of the project site and adjacent areas, including the rest of the City of Berkeley and general San Francisco Bay Area. This section is not intended to be a comprehensive review of the current resources present; rather, it serves as a general overview. Further details can be found in ethnographic studies, mission records, and major published sources.

[1] Precontact refers to the period prior to European settler contact with Native Americans, in this case specifically in California.

Precontact Indigenous History

The City of Berkeley lies within the San Francisco Bay Area archaeological region.[2] Milliken et al. (2007) generally divided the precontact chronology of the Bay Area into five periods: The Early Holocene (8,000-3,500 Before Common Era [BCE]), Early Period (3,500-500 BCE), Lower Middle Period (500 BCE to CE 430 CE), the Upper Middle Period (430-1050 CE), and the Late Period (1050 CE-contact).[3]

It is presumed that early Paleoindian groups lived in the area prior to 8,000 BCE; however, no evidence for that period has been discovered in the Bay Area to date.[4] Sites dating to this period may be submerged or deeply buried as a result of rising sea levels and widespread sediment deposition that has occurred since the Terminal Pleistocene.[5] For this reason, the Terminal Pleistocene Period (ca. 11,700-8,000 BCE) is not discussed here.

The earliest intensive study of archaeology of the San Francisco Bay Area began with N. C. Nelson of the University of California, Berkeley, between 1906 and 1908. He documented over 400 shell mounds throughout the area. Nelson was the first to identify the Bay Area as a discrete archaeological region.[6]

EARLY HOLOCENE (8000-3500 BCE)

Archaeological evidence from the early Holocene is limited as many sites dating to this period are likely buried under Holocene alluvial deposits.[7,8] The available data suggest that the Early Holocene in the San Francisco Bay Area is characterized by a mobile forager pattern and the presence of millingslabs, handstones, and a variety of leaf-shaped projectile points. Two archaeological sites (CA-CCO-696 and CA-CCO-637) that date to this period have been identified in Contra Costa County at the Los Vaqueros Reservoir. The earliest date for the Early Holocene comes from the CA-CCO-696, approximately 7000 BCE.[9]

EARLY PERIOD (3500-600 BCE)

The Early Period saw increased sedentism, or living in one place for a long time, with the introduction of new ground stone technologies (i.e., mortar and pestle), an increase in regional trade, and the first cut shell beads. The earliest evidence for the use of the mortar and pestle dates to 3800 BCE and comes from CA-CCO-637. By 1500 BCE, mortars and pestles had almost completely replaced millingslabs and handstones. The advent of the mortar and pestle indicates a greater reliance on processing nuts, especially acorns. Faunal evidence from various sites indicates a diverse faunal exploitation pattern based on mussel and other shellfish, marine mammals, terrestrial mammals, and birds.[10]

[2] Moratto, Michael J. 1984. California Archaeology. (Salinas: Coyote Press, 1984).
[3] Milliken et al. 2007. California Prehistory: Colonization, Culture, and Complexity. Punctuated Culture Change in the San Francisco Bay Area. Lanham: Alta Mira Press.
[4] Milliken et al. 2007. California Prehistory: Colonization, Culture, and Complexity. Punctuated Culture Change in the San Francisco Bay Area. Lanham: Alta Mira Press.
[5] Byrd, Brian F. and L. Mark Raab. 2007. Prehistory of Southern Bight: Models for a New Millennium.
[6] Moratto. California Archaeology. 1984.
[7] Ragir, Sonia. 1972. Contributions of the University of California Archeological Research Facility. The Early Horizon in Central California Prehistory. Berkeley: University of California, Berkeley.
[8] Moratto. California Archaeology. 1984.
[9] Milliken et al. 2007. California Prehistory: Colonization, Culture, and Complexity. Punctuated Culture Change in the San Francisco Bay Area. Lanham: Alta Mira Press.
[10] D'Oro, Stella. 2009. Native California prehistory and climate in the San Francisco Bay Area. Master's Theses and Graduate Research. San Jose State University.

The earliest cut bead horizon is also associated with this period. Rectangular *Haliotis* spp. (abalone) and *Olivella spp.* (snail) beads have been identified at several Early Period sites, including CA-CCO-637, CA-SCL-832 in Sunnyvale, and CA-ALA-307 in Berkeley.[11] These early examples of cut beads were recovered from mortuary contexts.

LOWER MIDDLE PERIOD (500 BCE-CE 430)

The Lower Middle Period saw numerous changes from the previous period. The presence of chipped stone points and bone tools became typical. Rectangular shell beads, common during the Early Period, disappear completely and are replaced by split-beveled and saucer Olivella beads. In addition to the changes in beads, *Haliotis* spp. ornaments, bone tools and ornaments, and basketry awls also became typical, indicating the development of coiled basketry technology. Mortars and pestles continued to be the dominant grinding tool.[12]

Evidence for the Lower Middle Period in the Bay Area comes from sites such as the Emeryville shell mound (CA-ALA-309) and Ellis Landing (CA-CCO-295). CA-ALA-309 is one of the largest shell mounds in the Bay Area and contains multiple cultural sequences. The lower levels of the site, which date to the Middle Period, contain flexed burials with bone implements, chert bifaces, charmstones, and oyster shells.[13]

UPPER MIDDLE PERIOD (430-1050 CE)

Around 430 CE, Olivella saucer bead trade networks that had been established during earlier periods collapsed and over half of known sites occupied during the Lower Middle Period were abandoned. Olivella saucer beads were replaced with Olivella saddle beads. New types of material culture appear within these sites, including elaborate, decorative blades, fishtail charmstones, new Haliotis ornament forms, and mica ornaments. Sea otter bones became more abundant, while salmon and other fish became less abundant, suggesting changes in faunal exploitation patterns from earlier periods.[14] Excavations at CA-ALA-309 indicate that a shift from mussels to oysters to clams may have occurred, and isotopic analysis confirms that San Francisco Bay individuals shifted from hunting higher-trophic-level foods in the Early Period to gathering foods like plants and shellfish in the Middle and Upper Periods.[15,16] Subsistence analyses at various sites dating to this period indicate a diverse diet that included numerous species of fish, mammals, birds, shellfish, and plant resources that varied by location in the San Francisco Bay Area.[17]

LATE PERIOD (CE 1050-CONTACT)

The Late Period saw an increase in social complexity, indicated by differences in burials and an increased level of sedentism relative to preceding periods, as evidenced by mortars weighing up to 90.7 kg.[18] An increase in imported Napa Valley obsidian occurred during this time for the production

[11] Milliken et al. 2007. California Prehistory: Colonization, Culture, and Complexity. Punctuated Culture Change in the San Francisco Bay Area. Lanham: Alta Mira Press.
[12] Luby, Edward M. and Mark F. Gruber. 1999. The Dead Must be Fed: Symbolic Meanings of the Shellmounds of the San Francisco Bay Area. Cambridge Archeological Journal. April.
[13] Moratto. California Archaeology. 1984.
[14] Simons, Dwight D. and Tim Carpenter. 2009. Fish Remains From CA-MRN-44/H, Angel Island, Marin County, California. Proceedings of the Society for California Archaeology. Vol. 21, 2009.
[15] Winslow G., Edward. 1916. Composition of California Shellmounds. American Archaeology and Ethnology. Berkeley: University of California Press.
[16] Burns et al. 2012. Isotopic Evidence for Changing Residence Patterns Though the Middle to Late Holocene in Central California. Chico: California State University, Chico, 2012.
[17] Hylkema, Mark G. 2002. Tidal Marsh, Oak Woodlands, and Cultural Florescence in the Southern San Francisco Bay Region.
[18] Lentz, Kari. 2012. Flaked and Geound Stone Technology at CA-ALA-54: Mortar Bowls and Stockton Points.

of smaller points, preforms and simple flake tools. Small, finely worked projectile points of the Stockton Serrated series associated with bow and arrow technology appear around 1250 CE. Olivella shell beads disappeared and were replaced with *Olivella* lipped and spire -lopped beads in the south bay and clamshell disk beads in the north bay, where thicker and larger beads indicated higher affluence. The toggle harpoon, hopper mortar, and magnesite tube beads also appeared during this period.[19] This period saw an increase in the intensity of resource exploitation that correlates with an increase in population.[20] Many of the well-known sites of earlier periods, such as the Emeryville shell mound (CA-ALA-309) and the West Berkeley site (CA-ALA-307), were abandoned, as indicated by the lack of Late Period elements. Researchers have suggested that the abandonment of these sites may have resulted from fluctuating climates and drought that occurred throughout the Late Period.[21]

Post-Contact History

Post-contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

SPANISH PERIOD (1769 – 1822)

Spanish explorers made sailing expeditions along the coast of California between the mid-1500s and mid-1700s. Juan Rodriguez Cabrillo in 1542 led the first European expedition to observe what was known by the Spanish as Alta (upper) California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements.[22] The Spanish crown laid claim to Alta California based on the surveys conducted by Cabríllo and Vizcaíno.[23]

By the 18th century, Spain developed a three-pronged approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain Gaspár de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the Presidio of San Diego as the first Spanish settlement in Alta California in 1769. Franciscan Father Junípero Serra also founded Mission San Diego de Alcalá that same year, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

Construction of missions and associated presidios was a major emphasis during the Spanish Period in California to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns; just three pueblos were

[19] Von Der Porten, Peter; Katherine Dixon; and Alex Degeorgey. 2014. Seriation of Clam Shell Disk Beads in Central California.
[20] Moratto. California Archaeology. 1984.
[21] Lightfoot, Kent G. and Edward M. Luby. 2002. Late Halocene in the San Francisco Bay Area: Temporeal Trends in the Use and Abandonment of Shell Mounds in the East Bay.
[22] Bean, Walton. 1968. California: An Interpretive History. New York: McGraw Hill.
[23] Gumprecht, Blake. 1999. The Los Angeles River: Its Life, Death, and Possible Rebirth. Maryland: The Johns Hopkins University Press.

established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles).

During this period, Spain also granted ranchos to prominent citizens and soldiers, though very few in comparison to the subsequent Mexican Period. To manage and expand their herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population, often forcibly.[24,25] The missions governed the local Native Americans and sought to convert the population to Christianity. The influx of European settlers brought the local Native American population in contact with European diseases which they had no immunity against, resulting in a catastrophic reduction in native populations throughout the State.[26]

MEXICAN PERIOD (1822 – 1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants.[27]

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land.[28]

The Mexican Period ended in early January 1848, following several decisive battles against the United States. On January 10, leaders of the Pueblo of Los Angeles surrendered peacefully after Mexican General Jose Maria Flores withdrew his forces. Shortly thereafter, newly appointed Mexican Military Commander of California Andrés Pico surrendered all of Alta California to US Army Lieutenant Colonel John C. Fremont in the Treaty of Cahuenga.

AMERICAN PERIOD (1848 – PRESENT)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for conquered territory including the present-day states of California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of Southern California continued to increase during the early American Period. Ranchos were sold or otherwise acquired by Americans, with many subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush and California's population, particularly that of the bay area, grew exponentially. During this time, San Francisco became California's first true city, growing from a population of 812 to 25,000 in only a few years.[29]

[24] Engelhardt, Zephyrin. 1927. San Fernando Rey, the Mission of the Valley. Chicago: Franciscan Herald Press, Chicago.
[25] Resendez, Andres. 2016. The Other Slavery: The Uncovered Story of Indian Enslavement in America. New York: Houghton Mifflin.
[26] McCawley, William. 1996. The First Angelinos: The Gabrielino Indians of Los Angeles. Novato: Bellena Press Cooperative.
[27] Gutierrez et al. 1998. Contested Eden: California Before the Goldrush. Berkeley: University of California Berkeley Press.
[28] Shumway, Burgess. 2007. California Ranchos. San Bernadino: Borgo Press.
[29] Guinn, J.M. 1977. Gold! Gold! Gold! from San Francisquito! In Los Angeles. Biography of a City, edited by John Caughey and LaRee Caughey. Berkeley: University of California Press.

During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom.

By 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to pour into the state, particularly after the completion of the transcontinental railroad in 1869. By the 1880s, the railroads had established networks throughout northern California, resulting in fast and affordable shipment of goods, as well to transport new residents to the growing region.[30]

History of Berkeley

By the early 1860s, new settlement and expansion within the present-day City of Berkeley area was catalyzed by two noteworthy events - the installation of telegraph lines along Telegraph and Claremont Avenues and the establishment of the College of California in 1866 (present-day University of California [UC] Berkeley). The City of Berkeley was officially incorporated in 1866.

During this period, residences and industries grew around the wharf area known as "Ocean View". In 1872, the City of Berkeley's first post office opened. Following the construction of the first buildings of the College of California in 1873, several local investors formed the Berkeley Land & Town Improvement Association. This group organized land sales, built stores, established wharves, and lobbied for a direct ferry service to San Francisco. In 1874, the Berkeley Ferry & Railroad Company initiated regular service between San Francisco and "Ocean View," or present-day West Berkeley. In April 1878, the people of "Ocean View", the area surrounding university campus, and local farmers were granted incorporation as the Town of Berkeley.[31]

Following incorporation, economic growth expanded rapidly with the establishment of mills, industrial plants, and retail operations. Commercial corridors began to grow in areas adjacent to the university. The areas surrounding the City remained largely agricultural.[32]

The establishment of the Southern Pacific Railroad in 1877 provided the means for easier transport of goods. By 1878, Southern Pacific Railroad had established a line from the City of Oakland through to the northern City of Berkeley area by way of Shattuck Avenue, and a downtown commercial district soon followed. As a result, the agricultural areas began to be developed for residential and commercial uses for the growing city. By about 1888, an interurban electric trolley line in addition to the ferry service to San Francisco helped connect the emerging town with nearby population and employment centers, further spurring population and construction expansion.[33]

At the beginning of the twentieth century, Berkeley expanded steadily, through the rapid growth of UC Berkeley, the downtown commercial corridor, as well as industrial development along the city periphery. Residential expansion grew, as well, with formation of neighborhoods, including the Berkeley flats neighborhood. The 1906 Earthquake hastened Berkeley's growth. Thousands of displaced San Francisco residents became permanent Berkeley residents and a corresponding construction boom followed.

At the same time, enrollment at UC Berkeley more than tripled between 1900 and 1920, growing from 2,000 to over 7,000. In the 1910s, plans began for Berkeley's Civic Center. As expansion continued through the 1920s, the City adopted a comprehensive ordinance creating land-use zones

[30] Dumke, Glenn. 1994. The Boom of the 1880s in Southern California. Southern California Quarterly, 76.
[31] Cohen, Alan. 2007. A History of Berkeley, From the Ground Up. Available: https://web.archive.org/web/20171014041700/http://historyofberkeley.org/about.html (accessed September 2024).
[32] Cohen, Alan. 2007. A History of Berkeley, From the Ground Up. Available: https://web.archive.org/web/20171014041700/http://historyofberkeley.org/about.html (accessed September 2024).
[33] Wollenberg, Charles. 2002. Berkeley, A City in History. Berkeley: University of California Press.

throughout Berkeley, to manage the rapid construction that was transforming the City. The economic collapse of the Great Depression signaled a shift in land use, with one result being the conversion of large-scale, single-family residences for multi-family use.

After the slowdown of the Great Depression, Berkeley experienced rapid expansion during and after World War II. The population grew from 85,000 to 115,000 in the 1940s, with much of this increase due to defense-related industries, including shipyard operations, and military personnel stationed in and around Berkeley. The UC Berkeley campus served as a training ground for Navy and Army officers as well as housing and barracks spaces.

During and immediately after World War II, Berkeley approached a population of over 110,000 by 1950.[34] Berkeley's growth was reflected in surging enrollments at UC Berkeley, which grew from 7,700 in 1944 to 21,000 in 1946. UC Berkeley's growth contributed to Berkeley's emergence as an important intellectual center. Much of Berkeley's postwar growth mirrors that of neighboring cities, with the postwar housing shortage (exacerbated by the population growth at UC Berkeley), the era of redevelopment, and suburban growth.

In the post Word War II period, one of the eras that distinguished Berkeley began in the 1960s and extended through the 1970s with the rise of the Civil Rights and Free Speech movements, the anti-war movement, and the flowering of a broad, influential counter-culture movement. The Vietnam War affected Berkeley tremendously, as it was heavily populated by young, working-class people and students who were eligible for the draft, spurring protests and demonstrations. With the leadership and participation of the younger generation, these movements came to define Berkeley's independent, progressive culture.

History of Berkeley Marina and César E. Chávez Park

The Berkeley Marina is located on the edge of the San Francisco Bay in an area with a long history of industrial and transportation uses.[35] The earliest non-Native settlers of the East Bay used this site as a landing for ships serving Sacramento. The first pier in the area was built in the mid-1860s by Captain J. Jacobs, who had established a shipping business on the shoreline in 1853. In the years following the Gold Rush, the area continued to grow and demand for transportation between Berkeley and San Francisco followed. The first ferry service by the Berkeley Ferry and Railroad Company began in 1874. The Berkeley Ferry and Railroad Company constructed a 1,300-foot-long pier to provide passenger ferry service to cross the tidal flats; however, service ended in 1876.

By the last decades of the late 19th century, waterfront businesses began to build piers including: Pacific Guano & Fertilizer Company at the former Jacob's Landing site, Monarch Oil and Refining Company, and West Berkeley Lumber Company. The City of Berkeley acquired the former ferry pier for use as a municipal pier by 1907. The Golden Gate Ferry Service constructed a new pier to support their new auto ferry service. The pier, constructed by the San Francisco Bridge Company, extended for 2.5 miles from the shoreline when it opened in 1927. It was constructed primarily to transport passengers and their vehicles by ferry. Its 2.5-mile length was necessary to access deeper water to accommodate the drafts for the hulls of larger ferry vessels. The pier originally featured a two-lane causeway to support continuous vehicular traffic awaiting ferry transport. From 1927 until 1936, the ferry served as the main mode of transportation between Berkeley and San Francisco. In 1936, however, the San Francisco Bay Bridge opened for automobile traffic. As a result, demand for

[34] MTC and ABAG. 2024. Bay Area Census. MTC-ABAG Library. Available: http://www.bayareacensus.ca.gov/index.html (accessed September 2024).
[35] Berkeley, City of. 2007. Berkeley Marina and Cesar Chavez Park – DPR Series 523 Form, Prepared by JRP Historical Consulting. July 26.

ferry service plummeted, and the Southern Pacific-Golden Gate Ferries shuttered ferry service between Berkeley and San Francisco on October 16, 1937.[36]

While the pier was being developed, the City of Berkeley was also constructing a new municipal wharf with a small office building about 800 feet out on the new pier. In 1935, State Emergency Relief Administration work crews built earth and rock breakwaters to enclose a large rectangular turning basin. It extended for approximately 4,000 feet into the bay from the newly constructed State highway and was bounded on the south by the pier. Workers salvaged timber from the old municipal wharf to construct the new 300-berth marina project.

Following the end of ferry service, the pier was donated to the City of Berkeley. The pier was integrated into the City's newly completed Berkeley Marina.[37] Because the City did not need to access the depth required for ferry service, the western portion of the Berkeley Pier was abandoned, and the closer-to-landside remainder of the Berkeley Pier was retained for recreational purposes as a fishing pier. The construction of the Berkeley Yacht Club building, a Cape Cod style club house at the western entrance to the harbor, was completed in 1939 (non-extant).[38]

The years following the end of World War II brought the greatest amount of change to the Berkeley Marina. As the economy grew, the highway system expanded, and the local population increased, pressure to fill in more of the Berkeley shoreline increased. During this period, due to the commercial availability of new technologies and the accessibility of products such as plastics and plywood, boat construction became less expensive, making boats more affordable to the consumer. This led to an increase in the number of recreational, small crafts and, consequently, the construction of new marinas and harbors throughout California. Additionally, during this period, the construction of recreational facilities increased in support of the growing number of Americans living in rapidly expanding suburbs, with facilities such as golf courses, parks, and recreational centers also constructed throughout California. As a result, more than half of the original yacht harbor was infilled. The City also constructed breakwaters (or dikes) from the north side of the marina to enclose an area of shallow water and it filled rapidly, doubling in size by the 1960s.

Over the next decade, additional improvements continued and included construction of most of the marina buildings. Between 1968 and 1975 the following buildings were constructed: two restaurants, a café, a bait shop, fuel dock, hotel, UC Berkeley sailing facility, and berths on the west side of Marina Boulevard. The Berkeley Marina vehicular circulation network was also built during this time and included Spinnaker Way, Marina Drive, University Avenue extension west of Marina Boulevard, and Seawall Drive. The hotel facility was expanded, and the original Berkeley Yacht club building was replaced in 1979. The Adventure Playground also opened in 1979.[39]

The Berkeley Pier was damaged as the result of the 1989 Loma Prieta Earthquake, and 240 linear feet of the pier was subsequently repaired to address the earthquake damage. Ferry service between the Berkeley Marina and San Francisco was temporarily resumed after the 1989 Loma

[36] Berkeley, City of. 2019. Berkeley Municipal Pier, DPR 523 Series Form, Prepared by Edward Yarbough. September 5.
[37] Berkeley Historical Society and Museum. 2024. Berkeley Marina 1930. Available: https://hub.catalogit.app/1438/folder/entry/b9127f10-db29-11e9-9661-4bac0a04e956 (accessed September 2024).
[38] Berkeley Historical Society and Museum. 2007. Berkeley Historical Society and Museum. Berkeley Lumber Pier c. 1900, Prepared by JRP Historical Consulting. Available: https://hub.catalogit.app/1438/folder/entry/8a31eaa0-db29-11e9-9661-4bac0a04e956/ (accessed September 2024).
[39] Berkeley Historical Society and Museum. 2007. Berkeley Historical Society and Museum. Berkeley Lumber Pier c. 1900, Prepared by JRP Historical Consulting. Available: https://hub.catalogit.app/1438/folder/entry/8a31eaa0-db29-11e9-9661-4bac0a04e956/ (accessed September 2024).

Prieta Earthquake damaged and temporarily closed the San Francisco Bay Bridge to automobile use.[40]

The City of Berkeley 1969 Marina Master Plan that called for creating "unstructured recreation" facilities in the landfill area north of Spinnaker Way, and by 1991 the Berkeley landfill was capped and a park was created. The City dedicated the park to labor leader César E. Chávez in 1996.

Most recently, the Berkeley Pier was closed to public access in 2015.[41] In 2017, Tideline Marine Group operated a small-scale ferry service (40 riders) from the Berkeley Marina to San Francisco; however, this small-scale ferry service has since ceased to operate.[42]

Berth, docks, ramps, and other marina facilities and equipment continue to be routinely updated as part of regular maintenance.

Existing Cultural Resources

Historical Resources within and Adjacent to Project Site

Register and Listing Review

A review of the National Register of Historic Places (NRHP), CRHR, and the California State Office of Historic Preservation Built Environment Directory (BERD), along with a review of the City of Berkeley Landmark and Structure of Merit List identified no designated historical resources (including historic districts) within or directly adjacent to the project site.

Background Research Review

Background research resulted in the identification of one property within the project site over the age of 45 years old, the age threshold recommended for recording and evaluating historical resources by the California Office of Historic Preservation. The age-eligible property, the Berkeley Marina and César E. Chávez Park (P-01-012116), includes the Berkeley Pier.

Previous Evaluations Review

The Berkeley Pier has been subject to three distinct historical resources evaluation efforts over the past approximately 50 years.

The Berkeley Pier was damaged in the 1989 Loma Prieta Earthquake. It was evaluated in 1992 to meet to meet requirements of Section 106 of the National Historic Preservation Act. Proposed repairs were undertaken using funds from the Federal Emergency Management Agency, who acted as the federal lead agency. The Federal Emergency Management Agency in consultation with the California Office of Historic Preservation (OHP), evaluated the pier and found it ineligible for listing in the NRHP.

[40] Bay Crossings. 2000. A Brief History of Ferries on the Bay. Available: https://www.baycrossings.com/a-brief-history-of-ferries-on-the-bay/#:~:text=In%20the%20meantime%2C%20congestion%20on,normal%20during%20the%20rebuilding%20period (accessed September 2025).
[41] Berkeley, City of. 2025. Berkeley Pier with Ferry Access Project. Available: https://berkeleyca.gov/your-government/our-work/capital-projects/berkeley-pier-ferry-access-project#:~:text=The%20Berkeley%20Municipal%20Pier%20was,of%20potential%20solutions%20and%20costs (accessed September 2025).
[42] Orenstein, Natalie. 2017. New Berkeley ferry offers alternative to crowded commutes. Berkeleyside. Available: https://www.berkeleyside.org/2017/05/25/new-berkeley-ferry-offers-alternative-crowded-commutes (accessed September 2025).

In 2007, in support of the *Berkeley/Albany Ferry Terminal Study: Cultural Resources Technical Report,* the project site, inclusive of the Berkeley Pier, Berkeley Marina, and César E. Chávez Park, was evaluated. The complex of the Berkeley Pier, Berkeley Marina, and César E. Chávez Park was recommended as ineligible for listing in the NRHP or CRHR under any eligibility criteria for a lack of historical significance and due to ongoing and extensive changes to the complex through several construction campaigns to the point that it no longer retains sufficient integrity for listing. The recommended finding that the property was ineligible for listing in the NRHP received concurrence from OHP in May 2008.

The Berkeley Pier was evaluated in September 2019 to support *Cultural Resources Inventory Report for the Berkeley Marina Streets Improvement Project.* The Berkeley Pier was recommended as eligible for listing in the NRHP and CRHR under Criteria A/1 under the theme of transportation at the State level, significant as the primary mode of transportation between the greater Berkeley area and San Francisco before the construction of the Bay Area's network of bridges. The evaluation recommended that only the pier's central segment, converted to a municipal fishing pier in 1938 (and used until it closed in 2015), retained sufficient integrity to convey its historical significance. The eastern portion (buried under fill) and western portion (missing piles and decking) was observed to not retain sufficient integrity for listing.

Two of the evaluation efforts focused on the Berkeley Pier and did not consider the property's larger developmental context, current ownership, and functionally related relationship of the Berkeley Pier to the larger Berkeley Marina, to which it is historically linked. As recommended by guidance from OHP, the evaluation was updated in 2025 to support the proposed project's environmental review to amplify information about the resource and document changes that have occurred since the previous evaluation.[43] Additionally, the updated 2025 Berkeley Pier evaluation assessed local eligibility, which was not included in previous evaluations.

PEDESTRIAN SURVEY

A 2024 pedestrian survey of the project site was conducted, during which built environment resources in the project area and immediate vicinity, including the pier, buildings, structures and associated landscape elements were visually inspected.[44] Inaccessible areas, including the abandoned portion of the pier in the San Francisco Bay were visually observed from a distance. Overall condition and integrity of these resources were documented and assessed. Site characteristics and conditions were documented using notes and digital photographs.

California Department of Parks and Recreation Evaluation

PIER-FERRY PROJECT HISTORICAL RESOURCE DETERMINATION

California Department of Parks and Recreation forms prepared to document the project site and its eligibility as a historical resource are included in Appendix D. The NRHP, CRHR, BERD, and City of Berkeley search, pedestrian survey, background research, previous evaluations review, and California Department of Parks and Recreation (DPR) evaluation did not identify any historic resources within or directly adjacent to the project site.

[43] OHP. 1995. Instructions for Recording Historical Resources. Department of Parks and Recreation.
[44] Site pedestrian survey conducted by Rincon Consultants. October 1, 2024.

Archaeological Resources within and Adjacent to Project Site

RECORDS AND LISTING REVIEW

The Northwest Information Center (NWIC) at Sonoma State University is the official state repository for cultural resources records and reports for Alameda County in which the planning effort falls. The records search helps to identify previously recorded cultural resources, as well as previously conducted cultural resources studies in the project site and a 0.5-mile radius surrounding it. Staff from Rincon Consultants also reviewed the NRHP, the CRHR, the California Historical Landmarks list, and the Built Environment Resources Directory. Additionally, the Archaeological Determination of Eligibility list and the California State Lands Commission California Shipwreck database were reviewed. A total of two previously conducted studies included portions of the project site and two additional studies were located immediately adjacent to the project site. No archaeological resources were identified within or immediately adjacent to the project site in previous studies, and no archaeological resources were listed within or immediately adjacent to the project site in the NWIC results.

ARCHIVAL RESEARCH REVIEW

Archival research included a review of the following:

- Alameda County Assessor's Office;
- Berkeley Architectural Heritage Association;
- City of Berkeley List of Designated City Landmarks, Structures of Merit & Historic Districts;
- Historical aerial photographs accessed via University of California, Santa Barbara Library FrameFinder;
- Sanborn Fire Insurance Company Maps accessed through the San Francsico Public Library;
- Historical United States Geological Survey (USGS) topographic maps;
- Historical newspaper clippings obtained from Newspapers.com, ProQuest Historical Newspapers.com, and the California Digital Newspaper Collection;
- Geologic Maps via the USGS National Geologic Map Database;
- United States Department of Agriculture Web Soil Survey;
- National Oceanic and Atmospheric Administration (NOAA) Hydrographic Survey Reports and Navigational Charts;
- NOAA Automated Wreck and Obstruction System and Electronic Navigational Charts;
- Previous cultural resources studies conducted for the Project site; and
- Previous historic evaluations of the existing Berkeley Pier.

PREVIOUS GEOLOGIC MAPPING REVIEW

According to published geologic mapping, the project site is underlain by historic-period artificial fill soils, followed by Holocene-aged Bay Mud deposits.[45] The California Department of Transportation (Caltrans) has further mapped the area as urban artificial cut/fill comprised of historic- and modern-

[45] Graymer, R.W. 2000. Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California, U.S. Geological Survey Miscellaneous Field Studies Map MF-2342. Available: https://pubs.usgs.gov/mf/2000/2342/. (accessed February 2026)

aged soils.[46] In addition, soils mapped within the project site consist of Urban Land. Urban land is composed of well-drained, discontinuous human-transported material over mixed alluvium derived from mixed rock sources on floodplains and alluvial fans. Urban Land generally consists of highly populated and developed areas where commercial and residential development is present, such as the project site. According to the National Resources Conservation Service, human-transported materials, human-altered materials, or minimally altered or intact "native" soils can significantly change existing soils and exhibit a wide variety of conditions and properties.[47] Geotechnical studies within the project site between University Avenue and the Marina Basin conducted between 2007 and 2013 confirmed that the project site contains between 8 feet and 18 feet of underlying artificial fill soils followed by Bay Mud deposits then alluvial sediments.[48,49,50] Therefore, the project site is located in a highly developed non-natural landscape of Urban Land, heavily disturbed from the deposition of fills, imported soils, and construction of extant buildings and facilities, and is not considered sensitive to containing intact archaeological deposits. However, it is unknown whether archaeological resources are present as the underlying historic-period fill soils may contain archaeological isolates if fill soils were sourced from archaeologically sensitive areas.

PEDESTRIAN SURVEY

A 2024 pedestrian survey of the project site was conducted, during which exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historical debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected. In addition, aquatic areas adjacent to and below the pier were examined for submerged archaeological resources such as shipwrecks, underwater Native American landscapes (mounds, bedrock mortar outcrops, etc.), or submerged structures. No archaeological resources were identified during the field survey.[51]

BATHYMETRIC REMOTE SENSING DATA EVALUATION

In addition, remote sensing bathymetric data covering the project site and collected in 2024[52] was utilized to create a digital surface elevation model (DSEM) to show elevation changes beneath the surface of the water (i.e., anomalies and geomorphic characteristics) that might indicate the presence of submerged cultural resources.[53] The seabed at the project site is comprised of a relatively level surface with minor changes in depth up to 2.8 miles from the shoreline, where depth then increases suddenly to 3 miles from the shoreline and the end of the project site. In the project site immediately to the north of the pier, there are irregular, thin, overlapping scours moving from the bay and curving toward the Marina Basin entrance as well as a few doughnut-shaped troughs.

[46] Meyer, Jack and Jeffrey Rosenthal. 2007. Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4. Oakland: Caltrans District 4, Office of Cultural Resources.
[47] UC Davis. 2024. California Soil Resource Lab SoilWeb App. Davis: Natural Resources Conservation Service and UC Davis. Available: https://casoilresource.lawr.ucdavis.edu/gmap/ (accessed October 2024).
[48] Magnusen, Wayne and Dona Mann. 2007. Geotechnical Investigation Berkeley Bicycle/Pedestrian Bridge Eastern Touchdown Plaza Aquatic Park, Berkeley, California. Berkeley: Alan Kropp & Associates.
[49] Lott, James and Dona Mann. 2008. Geotechnical Investigation New City of Berkeley Animal Shelter 1 Bolivar Drive, Berkeley, California. Berkeley: Alan Kropp & Associates.
[50] Mann, Dona. 2013. Geotechnical Investigation South Cove Public Dock and Parking Lot Renovation Project, Berkeley Marina, Berkeley, California. Oakland: A3GEO.
[51] Project site pedestrian survey conducted by Rincon Consultants. October 1, 2024.
[52] Project site bathymetric data collection conducted by eTrac. July 24-29.
[53] Project site DSEM created by Rincon Consultants.

These features are indicative of maritime activities including boat wakes, anchor dragging, and mooring blocks[54,55,56] consistent with expected boat activity along the navigation channel associated with the Berkeley Yacht Harbor.[57] In the project site immediately to the south of the pier, there are irregular, shallow pitted features that may be naturally occurring pockmarks or dredge pits from construction of the pier.[58] A deep channel is also present in the project site following along the edge of the shoreline likely dredged either in the construction or general maintenance of the Berkeley Marina Basin.[59] No features on the seabed within the project site are indicative of the expected San Francisco Bay paleolandscape, such as tributary channels or tidal marsh sand waves, nor anomalies indicative of submerged shipwrecks, aircrafts, or structures were observed in the project site. Evidence of dredging and boat activity indicates heavy disturbance of the project site.

EXISTING ARCHAEOLOGICAL RESOURCE DETERMINATION

The records search, SLF search, archival research, remote sensing data review, pedestrian survey, and previous geologic mapping review did not identify any archaeological resources within or directly adjacent to the project site.

3.4.3 Regulatory Framework

Federal Regulations

National Historic Preservation Act

Properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is therefore presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the National Historic Preservation Act and is the nation's official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects. Pursuant to Code of Federal Regulations, Title 36, Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

Criterion A: Are associated with events that have made a significant contribution to the broad patterns of our history

Criterion B: Are associated with the lives of persons significant in our past

[54] Madricardo et al. 2018. Assessing the Human Footprint on the Sea-Floor of Coastal Systems: The Case of the Venice Lagoon, Italy Scientific Reports, 9. Available: https://doi.org/10.1038/s41598-019-43027-7 (accessed October 2024).
[55] Watson et al. 2020. What We Do in the Shallows: Natural and Anthropogenic Seafloor Geomorphologies in a Drowned River Valley, New Zealand. Frontiers in Marine Science, 7:1-23.
[56] Watson et al. 2022. The Footprint of Ship Anchoring on the Seafloor. Scientific Reports, 12. Available: https://doi.org/10.1038/s41598-022-11627-5 (accessed October 2024).
[57] United States Army Corps of Engineers. 2024. Berkeley Marina Condition Survey, 30 April & 24 May 2024. San Francisco District, California. Available: https://www.spn.usace.army.mil/Missions/Surveys-Studies-Strategy/Hydro-Survey/Berkeley-Marina/ (accessed October 2024).
[58] Watson et al. 2020. What We Do in the Shallows: Natural and Anthropogenic Seafloor Geomorphologies in a Drowned River Valley, New Zealand. Frontiers in Marine Science, 7:1-23.
[59] Pacific EcoRisk. 2023. Characterization of the Sediment from the Berkeley Marina: Results of Sediment Sampling and Analysis.

Criterion C: Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined as follows:

Location: The place where the historic property was constructed or the place where the historic event occurred

Design: The combination of elements that create the form, plan, space, structure, and style of a property

Setting: The physical environment of a historic property

Materials: Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property

Workmanship: The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory

Feeling: A property's expression of the aesthetic or historic sense of a particular period of time

Association: The direct link between an important historic event or person and a historic property

Certain properties are generally considered ineligible for listing in the NRHP, including cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions, relocated structures, or commemorative properties. Additionally, a property must be at least 50 years of age to be eligible for listing in the NRHP. The National Park Service states that 50 years is the general estimate of the time needed to develop the necessary historical perspective to evaluate significance.[60] Properties which are less than 50 years must be determined to have "exceptional importance" to be considered eligible for NRHP listing.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act amended the Antiquities Act of 1906 (16 USC 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected, and required special permits before the excavation or removal of archaeological resources from public or Indian lands. The purpose of the Archaeological Resources Protection Act was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional

[60] National Park Service. 1997. National Register Bulletin-How to Apply the National Register Criteria for Evaluation. Available: https://home.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf. (accessed February 2026)

archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act established federal policy to protect and preserve the inherent rights of freedom for Native groups to believe, express, and exercise their traditional religions. These rights include but are not limited to access to sites, use and possession of sacred objects, and freedom to worship through ceremonial and traditional rites.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

State Regulations

California Register of Historical Resources

The CRHR was established in 1992 and codified by Public Resource Code (PRC) Sections 5024.1 and 4852. The CRHR is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change [Public Resources Code, 5024.1(a)[. The criteria for eligibility for the CRHR are consistent with the NRHP criteria but have been modified for state use in order to include a range of historical resources that better reflect the history of California (PRC Section 5024.1(b)). Unlike the NRHP, however, the CRHR does not have a defined age threshold for eligibility; rather, a resource may be eligible for the CRHR if it can be demonstrated sufficient time has passed to understand its historical or architectural significance.[61] (Furthermore, resources may still be eligible for listing in the CRHR even if they do not retain sufficient integrity for NRHP eligibility.[62] Generally, the California Office of Historic Preservation recommends resources over 45 years of age be recorded and evaluated for historical resources eligibility.[63]

Properties are eligible for listing in the CRHR if they meet one or more of the following criteria:

Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

Criterion 2: Is associated with the lives of persons important to our past

[61] OHP. 2006. California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register). California Office of Historic Preservation Technical Assistance Series #10.
[62] OHP. 2006. California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register). California Office of Historic Preservation Technical Assistance Series #10.
[63] OHP. 1995. Instructions for Recording Historical Resources, Department of Parks and Recreation.

Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history

California Environmental Quality Act

CALIFORNIA CODE OF REGULATIONS, CEQA GUIDELINES SECTION 15064.5(a) – CEQA DEFINITION OF HISTORICAL RESOURCES

PRC Section 21804.1 requires lead agencies determine if a project could have a significant impact on historical or unique archaeological resources. As defined in PRC Section 21084.1, a historical resource is a resource listed in, or determined eligible for listing in, the CRHR; a resource included in a local register of historical resources or identified in a historical resources survey pursuant to PRC Section 5024.1(g); or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. PRC Section 21084.1 also states resources meeting the above criteria are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise. Resources listed in the NRHP are automatically listed in the CRHR and are, therefore, historical resources under CEQA. Historical resources may include eligible built environment resources and archaeological resources of the precontact or historic periods.

CALIFORNIA CODE OF REGULATIONS, CEQA GUIDELINES SECTION 15064.5(b) – SUBSTANTIAL ADVERSE CHANGE IN SIGNIFICANCE

According to CEQA, an impact that results in a substantial adverse change in the significance of a historical resource is considered a significant impact on the environment. A substantial adverse change could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (California Code of Regulations, CEQA Guidelines Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or a local register (California Code of Regulations, CEQA Guidelines Section 15064.5[b][2][A]).

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b]).

CALIFORNIA CODE OF REGULATIONS, CEQA GUIDELINES SECTION 15064.5(c) – EFFECTS ON ARCHAEOLOGICAL RESOURCES

California Code of Regulations, CEQA Guidelines Section 15064.5(c) provides further guidance on the consideration of archaeological resources. If an archaeological resource does not qualify as a historical resource, it may meet the definition of a “unique archaeological resource” as identified in PRC Section 21083.2. PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: 1) it

contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or 3) is directly associated with a scientifically recognized important precontact or historic event or person.

If an archaeological resource does not qualify as a historical or unique archaeological resource, the impacts of a project on those resources will be less than significant and need not be considered further (California Code of Regulations, CEQA Guidelines Section 15064.5[c][4]). California Code of Regulations, CEQA Guidelines Section 15064.5 also provides guidance for addressing the potential presence of human remains, including those discovered during the implementation of a project.

CALIFORNIA CODE OF REGULATIONS, CEQA GUIDELINES SECTION 15064.5(d) – EFFECTS ON NATIVE AMERICAN HUMAN REMAINS

Native American human remains and associated burial items may be significant to descendant communities and/or may be scientifically important for their informational value. They may be significant to descendant communities for patrimonial, cultural, lineage, and religious reasons. Human remains may also be important to the scientific community, such as prehistorians, epidemiologists, and physical anthropologists. The specific stake of some descendant groups in ancestral burials is a matter of law for some groups, such as Native Americans (California Code of Regulations, CEQA Guidelines Section 15064.5(d); PRC Section 5097.98). CEQA and other State regulations regarding Native American human remains provide the following procedural requirements to assist in avoiding potential adverse effects on human remains within the contexts of their value to both descendant communities and the scientific community:

- When an initial study identifies the existence or probable likelihood that a project would affect Native American human remains, the lead agency is to contact and work with the appropriate Native American representatives identified through the NAHC to develop an agreement for the treatment and disposal of the human remains and any associated burial items (California Code of Regulations, CEQA Guidelines Section 15064.5(d); PRC Section 5097.98).
- If human remains are accidentally discovered, the county coroner must be contacted. If the county coroner determines that the human remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC must identify the most likely descendant (MLD) to provide for the opportunity to make recommendations for the treatment and disposal of the human remains and associated burial items.
- If the MLD fails to make recommendations within 24 hours of notification or the project applicant rejects the recommendations of the MLD, the Native American human remains and associated burial items must be reburied in a location not subject to future disturbance within the project site (PRC Section 5097.98).
- If potentially affected human remains or a burial site may have scientific significance, whether or not it has significance to Native Americans or other descendent communities, then under CEQA, the appropriate mitigation may require the recovery of the scientific information of the remains/burial through identification, evaluation, data recovery, analysis, and interpretation (California Code of Regulations, CEQA Guidelines Section 15064.5(c)(2)).

CALIFORNIA CODE OF REGULATIONS, CEQA GUIDELINES SECTION 15064.5(e) – EFFECTS ON HUMAN REMAINS

In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
    a. The coroner determines the remains to be Native American.
    b. If the coroner determines the remains to be Native American:
        i. The coroner shall contact the Native American Heritage Commission within 24 hours.
        ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
        iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or
2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
    a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
    b. The descendant identified fails to make a recommendation; or
    c. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

CALIFORNIA CODE OF REGULATIONS, CEQA GUIDELINES SECTION 15126.4 – CULTURAL RESOURCES MITIGATION

California Code of Regulations, CEQA Guidelines Section 15126.4 requires that an EIR shall describe feasible measures to minimize significant adverse impacts. In addition to being fully enforceable, mitigation measures must be completed within a defined time period and be roughly proportional to the impacts of the project. Generally, a project which is found to comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (the Standards) is considered to be mitigated below a level of significance (California Code of Regulations, CEQA Guidelines Section 15126.4(b)(1)). For historical resources of an archaeological nature, lead agencies should also seek to avoid damaging effects where feasible. Preservation in place is the preferred manner to mitigate impacts on archaeological sites; however, data recovery through excavation may be the only option in certain instances (California Code of Regulations, CEQA Guidelines Section 15126.4(b)(3)).

California Health and Safety Code Section 7050.5 – Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie

adjacent remains until the coroner of the county in which the remains are discovered has determined if the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification.

California Health and Safety Code Section 5097.98 – Human Remains

Section 5097.98 of the California Health and Safety Code specifies requirements for the treatment following the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5., including efforts to identify the MLD.

California Public Resources Code Section 5097.91 – Sacred Lands Inventory

Section 5097.91 of the Public Resources Code established duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. This inventory is referred to as the NAHC Sacred Lands File. Under Section 5097.9 of the Public Resources Code, a State policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the Public Resources Code specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Regional and Local Regulations

Berkeley General Plan

The Berkeley General Plan Urban Design and Preservation Element provides policies with the overall goal to protect and enhance Berkeley's special built environment and cultural heritage. These policies include:

Policy UD-1 Techniques

Use a wide variety of regulatory, incentive, and outreach techniques to suitably protect Berkeley's existing built environment and cultural heritage.

Policy UD-2 Regulation of Significant Properties

Increase the extent of regulatory protection that applies to structures, sites, and areas that are historically or culturally significant.

Policy UD-3 Regulation of Neighborhood Character

Use regulations to protect the character of neighborhoods and districts, and respect the particular conditions of each area.

Policy UD-5 Architectural Features

Encourage, and where appropriate require, retention of ornaments and other architecturally interesting features in the course of seismic retrofit and other rehabilitation work.

Policy UD-6 Adaptive Reuse

Encourage adaptive reuse of historically or architecturally interesting buildings in cases where the new use would be compatible with the structure itself and the surrounding area.

Policy UD-8 Public Works Projects

In public works projects, seek to preserve desirable historic elements such as ornamental sidewalk features, lampposts, and benches.

Policy UD-12 Range of Incentives

Seek to maintain and substantially expand the range and scale of incentives that the City and/or other entities make available in Berkeley for the preservation of historic and cultural resources.

Policy UD-16 Context

The design and scale of new or remodeled buildings should respect the built environment in the area, particularly where the character of the built environment is largely defined by the aggregation of historically and architecturally significant buildings.

Policy UD-17 Design Elements

In relating a new design to the surrounding area, the factors to consider should include height, massing, materials, color, and detailing or ornament.

Policy UD-20 Alterations

Alterations to a worthwhile building should be compatible with the buildings original architectural character.

Policy UD-21 Directing Development

Use City incentives and zoning provisions to direct new development toward locations where significant historic structures or structures contributing to the character of an area will not need to be removed.

Policy UD-24 Area Character

Regulate new construction and alterations to ensure that they are truly compatible with and, where feasible, reinforce the desirable design characteristics of the particular area they are in.

Policy UD-36 Information on Heritage

Promote, and encourage others to promote, understanding of Berkeley's built and cultural heritage, the benefits of conserving it, and how to sensitively do that.

Policy UD-38 Tourism

As an economic development strategy, promote the city's cultural and architectural heritage.

Berkeley Municipal Code Chapter 3.24

The City of Berkeley Municipal Code Chapter 3.24 *Landmarks Preservation Commission* authorizes the Berkeley Landmarks Preservation Commission to designate local landmarks, historic districts,

and structures of merit, as approved by the City Council, by the procedures established in the Municipal Code. The City of Berkeley Municipal Code Chapter 3.24.110 specifically states that an eligible property may be nominated and designated as a landmark, historic district, or structure of merit if it satisfies the requirements set forth below.

LANDMARKS AND HISTORIC DISTRICTS

General criteria which the Landmarks Commission shall use when considering structures, sites and areas for landmark or historic district designation are as follows:

1. Architectural Merit:
    a. Property that is the first, last, only, or most significant architectural property of its type in the region.
    b. Properties that are prototypes of or outstanding examples of periods, styles, architectural movements or construction, or examples of the more notable works of the best surviving work in a region of an architect, designer, or master builder.
    c. Architectural examples worth preserving for the exceptional values they add as part of the neighborhood fabric.
2. Cultural value: Structures, sites and areas associated with the movement or evolution of religious, cultural, governmental, social and economic developments of the City.
3. Educational value: Structures worth preserving for their usefulness as an educational force.
4. Historic value: Preservation and enhancement of structures, sites, and areas that embody and express the history of Berkeley/Alameda County/California/United States History may be social, cultural, economic, political, religious, or military.
5. Any property which is listed on the National Register described in Section 470A of Title 16 of the United States Code.

STRUCTURES OF MERIT

Criteria that the Landmarks Commission shall use when considering a structure for structure of merit designation are as follows:

1. General criteria shall be architectural merit and/or cultural, educational, or historic interest or value. If upon assessment of a structure, the commission finds that the structure does not currently meet the criteria as set out for a landmark, but it is worthy of preservation as part of a neighborhood, a block or a street frontage, or as part of a group of buildings which includes landmarks, that structure may be designated a structure of merit.
2. Specific criteria include, but are not limited to one or more of the following:
    a. The age of the structure is contemporary with (1) a designated landmark within its neighborhood, block, street frontage, or group of buildings, or (2) an historic period or event of significance to the city, or to the structure's neighborhood, block, street frontage, or group of buildings.
    b. The structure is compatible in size, scale, style, materials, or design with a designated landmark structure within its neighborhood, block, street frontage, or group of buildings.
    c. The structure is a good example of architectural design.
    d. The structure has historical significance to the city and/or to the structure's neighborhood, block, street frontage, or group of buildings.

3.4.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Cultural Resources. Would the proposed project:

a) Cause a substantial adverse change in the significance of a historic resource pursuant to §15064.5?
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
c) Disturb any human remains, including those interred outside of formal cemeteries?

Approach to Analysis

This evaluation focuses on whether implementation of the proposed project would impact historical resources or archaeological resources, or disturb human remains. Both direct and indirect impacts of proposed project implementation were considered for this analysis below. Direct impacts are typically associated with construction and/or ground-disturbing activities, and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of a cultural resource. Indirect impacts are typically associated with post-project implementation conditions that have the potential to alter or diminish the setting of a cultural resource by introducing visual intrusions on existing sites that are considered undesirable.

Historical Resources

The analysis of impacts related to historical resources is based on results of review of the NRHP, CRHR, BERD, and City of Berkeley Landmark List. Additionally, historical aerials, maps, and available parcel assessor data were consulted, and a pedestrian survey was conducted. Architectural Historians evaluated impacts on historical resources based on the likelihood that historical structures, sites, districts, or landscapes are present within the project site, and the likely effects of project construction or operation on these resources.

Archeological Resources and Human Remains

The analysis of the impacts related to archeological resources and human remains is based, in part, on the results of records search, SLF search, pedestrian survey, and archival research (NOAA Hydrographic Survey Reports and Navigational Charts and Automated Wreck and Obstruction System Charts, USGS topographic maps, etc.). Archaeologists evaluated impacts related to archaeological resources based on the likelihood whether such resources are present, bathymetric remote data, and geologic mapping.

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to cultural resources regulatory requirements.

The City received one comment from the Native American Heritage Commission, which included recommendations for cultural resources assessment. Assessment of impacts on historical resources is discussed under Impact CR-1. Assessment of impacts on archaeological resources is discussed under Impact CR-2. Assessment of impacts on human remains is discussed under Impact CR-3.

Specific Threshold of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of cultural resources impacts resulting from implementation of the proposed project.

- Impair a historical resource's ability to convey its significance (i.e., affect a resource's inclusion in the NRHP or CRHR), not adhere to the Secretary of Interior's Standards for Rehabilitation, or no longer be considered a landmark or structure of merit according to City of Berkeley Municipal Code Chapter 3.24.110. Specifically, the significance of a historical resource would be "materially impaired" if the proposed project could result in the following effects at or adjacent to a known historical site within the project site:
  - Demolish or materially alter in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
  - Demolish or materially alter in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources... or its identification in a historical resources survey... unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
  - Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA. (California Code of Regulations, CEQA Guidelines Section 15064.5[b][2])
- Physically damage or destroy archaeological data or human remains.
- Physically damage, destroy, or otherwise adversely impact a site, feature, place, or cultural landscape with cultural value to a California Native American tribe and that is a resource determined by the City of Berkeley, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Impact Evaluation

Historical Resources

Significance Criterion a:	Would the proposed project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact CR-1 THE PROPOSED PROJECT WOULD NOT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL RESOURCE, AND NO IMPACT WOULD OCCUR.

Construction and Operation

The fieldwork and background research identified one known historic-age property in the project site, Berkeley Marina and César E. Chávez Park (P-01-012116), which includes the Berkeley Pier. It was previously evaluated in 2007 and recommended ineligible for listing in the NRHP or CRHR under eligibility criteria for a lack of historical significance and lack of integrity. The finding that the property was ineligible for listing in the NRHP received concurrence from OHP in May 2008. Additionally, the Berkeley Pier was previously evaluated in 1992 and found ineligible for listing in

the NRHP. It was evaluated again in 2019, and a portion was recommended eligible for listing in the NRHP and CRHR under Criterion A/1 for its association with Bay Area transportation history. That evaluation, however, focused on the Berkeley Pier and did not consider the property's larger developmental context, current ownership, and functionally related relationship of the Berkeley Pier to the larger Berkeley Marina, to which it is historically linked. No historic districts were identified within or directly adjacent to the project site.

As recommended by guidance from OHP, the evaluation of Berkeley Marina and César E. Chávez Park, inclusive of the Berkeley Pier was updated to amplify information about the resource, including a more complete historical context and developmental history of the property, and document changes that have occurred since the previous evaluation. Additionally, it was evaluated for local eligibility, which was not included in previous evaluations. The full updated evaluation, recorded on Department of Parks and Recreation forms, is available in Appendix D, and as a result of this updated evaluation, there is no evidence or new information to suggest that any portion of the project site, inclusive of the Berkeley Pier, is eligible for listing in the NRHP or CRHR. Furthermore, the project site, inclusive of the Berkeley Pier, and its associated features and buildings as well as the proximate César E. Chávez Park, is not considered eligible for listing as a City of Berkeley Landmark or Structure of Merit given a lack of historical or architectural significance requisite for listing. Therefore, the project site is not considered a historical resource for the purposes of CEQA impact assessment evaluation. Therefore, there would be no construction or operation impact related to historical resources.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

Archaeological Resources

Significance Criterion b:	Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact CR-2 **THE PROPOSED LAND AND WATER DISTURBANCES DURING CONSTRUCTION COULD ADVERSELY AFFECT UNIDENTIFIED ARCHAEOLOGICAL RESOURCES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION FOR POTENTIAL UNKNOWN ARCHAEOLOGICAL RESOURCES.**

Construction

Project construction would involve demolition of the existing Berkeley Pier, and development of a new Berkeley Pier and associated breakwater, plaza, and waterfront amenities. These construction activities would involve ground disturbance both landside and waterside.

After review of archival research, records search results, bathymetric data analysis, and a pedestrian field survey, no archaeological resources that qualify as historical resources under CEQA within the proposed project have been identified within the project site. A review of geotechnical studies, geologic mapping, historic-period topographic maps and aerial imagery, bathymetric data, and records search results indicate that the landside improvements area is underlain with 8 to 18 feet of artificial fill soils and the waterside improvements area lacks the geomorphic features consistent

with an intact submerged paleolandscape. Therefore, both the landside and waterside improvement areas are considered to have low archaeological sensitivity. However, the potential remains for the discovery of unanticipated archaeological resources during ground disturbing activities, including the landside and waterside improvements. This would be a potentially significant impact.

Mitigation Measure CR-1 would require implementation of protocols in the event of an unanticipated find of archaeological resources and preventing additional work in the area of the unanticipated find until a respective data recovery plan is prepared and implemented. With implementation of Mitigation Measure CR-1, potential unknown archaeological resources would be protected. Therefore, construction impacts related to archaeological resources would be less than significant with mitigation.

This archaeological resources analysis does not include consideration for Tribal Cultural Resources, which are addressed separately in Section 3.13, *Tribal Cultural Resources,* of this EIR.

Operation

Operation of the project would not involve ground disturbance. Therefore, there would be no operational impact related to archaeological resources.

Mitigation Measures

MITIGATION MEASURE CR-1: STOP WORK AND PREPARE AND IMPLEMENT A DATA RECOVERY PLAN IF UNANTICIPATED ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 100 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall be contacted immediately to evaluate the resource.[64] If the resource is determined by the qualified archaeologist to be precontact, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the resource is identified in the waterside improvements area, then a qualified marine archaeologist shall assist in the treatment and evaluation of the resource. Any waterside discoveries that are removed from their submerged environment shall be kept fully submerged in a container of freshwater for storage until the archaeologist can examine the find. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided by means of changes in the design of the project, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, pursuant to the requirements of the California Code of Regulations, CEQA Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The City shall review and approve the data recovery plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the California Historical

[64] National Park Service. 1983. Secretary of the Interior's Standards and Guidelines for Professional Qualifications in Archaeology and Historic Preservation. Available: https://www.nps.gov/articles/series.htm?id=62144687-B082-538A-A0174FFF26496394. (accessed February 2026)

Resources Information System, pursuant to California Code of Regulations, CEQA Guidelines Section 15126.4(b)(3)(C).

Level of Significance

Less Than Significant with Mitigation

Disturbance of Human Remains

Significance Criterion c:	Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?

Impact CR-3 THE PROPOSED LAND AND WATER DISTURBANCES DURING CONSTRUCTION COULD ADVERSELY AFFECT UNIDENTIFIED HUMAN REMAINS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH REQUIRED ADHERENCE TO EXISTING REGULATIONS.

Construction

No human remains are known to be located within the or adjacent to the project site, and the landside area of the project site is underlain by artificial fill soils unlikely to contain human burials. However, the Sacred Lands File search for the project returned positive results for the presence of Native American sacred lands and the records search identified an archaeological resource with associated burials within a 0.5-mile of the project site. In addition, the discovery of human remains is always a possibility during ground disturbing activities, including dredging.

Human burials have specific provisions for treatment in California Health and Safety Code Sections 7050.5. Existing regulations address the illegality of interfering with human burial remains and protects them from disturbance, vandalism, or destruction. PRC Section 5097.98 also addresses the disposition of Native American burials, requires the protection of such remains, and establishes the NAHC as the entity to resolve any related disputes. Additional information about Native American human remains is included in Section 3.13, *Tribal Cultural Resources* of this EIR.

If human remains are found, the State of California Health and Safety Code Section 7050.5 states 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. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be precontact, the Coroner will notify the NAHC, which would determine and notify a most likely descendant. The most likely descendant has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the most likely descendant does not make recommendations within 48 hours, the landowner shall re-inter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, construction impacts related to human remains would be less than significant.

Operation

Operation of the project would not involve ground disturbance. Therefore, there would be no operational impact related to human remains.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

3.4.5 Cumulative Impacts

The geographic scope of the cumulative cultural analysis includes areas in the vicinity of the project, including City and County land and submerged areas. This geographic scope is appropriate for cultural resources because such resources are regionally specific. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*) located in Berkeley in addition to the proposed project.

Historical Resources

Because the project would result in no impact on historical resources, the project could not contribute to a cumulative impact related to historical resources (including historic districts). Therefore, no cumulative impact would occur.

Archaeological Resources

The potential for a cumulative impact on archaeological resources is based in part on the archaeological sensitivity of the area where other cumulative projects are located. The cumulative projects located near the proposed project are within the Berkeley Waterfront, which is made of artificial fill and as discussed in Impact CR-2 has a low archaeological sensitivity. Therefore, the potential for a cumulative impact is low given the low archaeological sensitivity of the site for the cumulative projects. Nonetheless, like the proposed project, cumulative projects could still result in impacts on previously unknown archaeological resources. Cumulative destruction, damage, or alteration of archaeological resources that qualify as historical resources or unique archaeological resources remains a possibility in the vicinity of the project. This would represent a potentially significant cumulative impact. The proposed project, however, would include the implementation of Mitigation Measure CR-1, which establishes protocols in the event that a previously unknown archaeological resource is discovered during construction to reduce impacts to unique archaeological resources. Given the low archaeological sensitivity, and that the proposed project would include mitigation that would require either protection or data recovery for an archaeological resource, the proposed project contribution to a potentially significant cumulative impact would be less than considerable. Therefore, the cumulative impact would be less than significant.

Human Remains

Cumulative projects that involve ground-disturbing activities could encounter human remains. If human remains are found, the cumulative projects would be required to comply with the State of California Health and Safety Code Section 7050.5, as described for the proposed project under Impact CUL-3, above. With adherence to existing regulations relating to human remains, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to human remains.

Overall Level of Cumulative Significance

Less Than Significant

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3.5 Geology and Soils

3.5.1 Introduction

This section describes the existing setting related to geology and soils (seismicity, seismic hazards including surface rupture, ground shaking, liquefaction and lateral spreading, subsidence and collapse, slope stability and landslides, expansive soils, erosion, and paleontological resources) within the project site and the surrounding City of Berkeley area, as well as the relevant regulatory framework. This section also evaluates potential impacts related to geology and soils that could result from implementation of the proposed project. Information in this section is based on information from the Geotechnical Report prepared for the project[1], the United States Geological Survey, United States Department of Agriculture, California Geological Survey, California Department of Conservation, University of California Museum of Paleontology, the City of Berkeley Community GIS Portal, and the City of Berkeley General Plan.

3.5.2 Environmental Setting

Topography

Regional

The City of Berkeley is located in the United States Geological Survey's (USGS) *Briones Valley*, *Richmond*, *Oakland East*, and *Oakland West* 7.5-minute topographic quadrangles. The urban area is typified by low topographic relief, with gentle slopes to the west in the direction of San Francisco Bay. By contrast, the Berkeley Hills that lie on the east side of the City of Berkeley have more pronounced topographic relief, with elevations that exceed 1,000 feet above mean sea level.

Project Site

The project site is located on the westerly boundary of East Bay Plain (the Plain), a flat area that extends 50 miles from Richmond in the north to San Jose in the south. The Plain is approximately 3 miles wide in the Berkeley area. At its eastern edge, the plain transitions into hills, rising to approximately 1,683 feet at Barberry Peak, the highest point in Berkeley's Claremont Hills neighborhood. On its western edge, the Plain slopes down to San Francisco Bay, the largest estuary on the California coast[2], where the project is specifically located.

Geologic Setting

Regional

The Plain is part of the larger Coast Ranges geomorphic province, one of the eleven geomorphic provinces of California.[3] The Coast Ranges extend along the majority of the California coast from the California-Oregon border to Point Arguello in Santa Barbara County in the south and consist of northwest-trending mountain ranges and valleys. Geologic maps indicate that the Plain is underlain

[1] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[2] Berkeley, City of. 2002. Berkeley General Plan Disaster Preparedness and Safety Element. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed August 2025).
[3] California Geological Survey. 2002. Note 36 - California Geomorphic Provinces. California Department of Conservation. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf (accessed September 2024).

primarily by Quaternary alluvial deposits, and the eastern parts of Berkeley, in the Berkeley Hills, are underlain by Mesozoic and Cenozoic igneous and sedimentary rocks.[4, 5] The eastern side is characterized by strike-ridges and valleys in the Upper Mesozoic strata.

Berkeley is located near the San Andreas and Hayward fault zones, one of the most seismically active regions in the United States. The San Andreas Fault is located approximately 15 miles west of Berkeley. There is one Alquist-Priolo Earthquake Fault Zone within Berkeley for the Hayward Fault. The Hayward Fault trace passes through parts of the northeast Berkeley hills, the UC Berkeley campus, and northeast to Tunnel Road.[6]

Project Site

Because the landside portion of the project site is a human-made feature originally built on the open waters of the San Francisco Bay, there is limited information regarding the geology below the anthropogenic fill (Figure 3.5-1). Directly underlying the fill are Young Bay Muds, which extend offshore into the water-side portion of the project site. The Franciscan Formation, which is of Jurassic and Cretaceous age, is generally believed to exist below the Bay muds at a depth of approximately 400 feet below sea level.[7]

Existing Soils

Soil Types and Properties

Corrosive soils are a geologic hazard, because they react with concrete and ferrous metals, which can cause damage to foundations and buried pipelines. Expansive soils are a geologic hazard, because an increase in soil volume can exert forces on structures and, thus, damage building foundations, walls, and floors. In general, areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or loose unconsolidated alluvial sediments. When these soils dry out and shrink, structural damage can occur.

Regional

Berkeley features 12 soil types (Figure 3.5-2). Generally, soils consist of a mix of clay, loam, and alluvial materials derived from the volcanic and sedimentary rock formations that compose the Berkeley Hills. The hilly eastern portion of the city is characterized by clayey loams overlying shallow bedrock, and the westerly portion of sand-silt-clay complexes that have been reworked by human activities.

[4] Graymer, R.W. 2000. Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California, U.S. Geological Survey Miscellaneous Field Studies Map MF-2342. Available: https://pubs.usgs.gov/mf/2000/2342/. (accessed February 2026).
[5] Radbruch, D.H. 1957. Areal and engineering geology of the Oakland West quadrangle, California. [map.] United States Geological Survey. Miscellaneous Geologic Investigations Map I-239, scale 1:24,000. Available: https://ngmdb.usgs.gov/Prodesc/proddesc_437.htm (accessed February 2026).
[6] University of California Museum of Paleontology. 2024. UCMP online database specimen search portal. Available: http://ucmpdb.berkeley.edu/ (accessed September 2024).
[7] Rodgers, J.D., Figuers, S.H. 1992. Late Quaternary Stratigraphy of the East Bay Plain. Available: https://ia601309.us.archive.org/28/items/proceedingsofsec113conf/proceedingsofsec113conf.pdf (accessed September 2024).

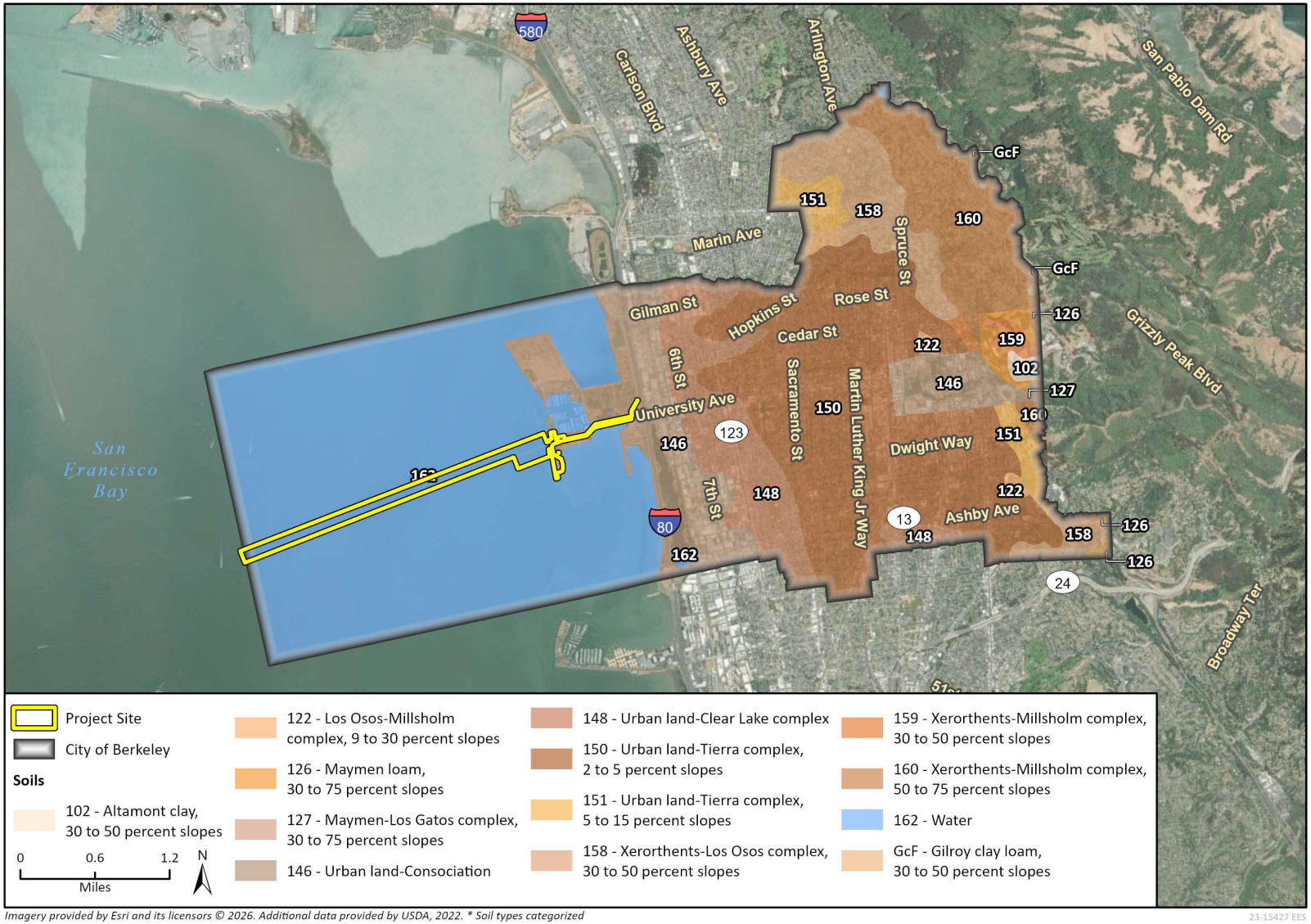
Figure 3.5-1 Project Site Geology



Imagery provided by Esri and its licensors © 2026.
Additional data provided by Geologic Map and Map Database of the Alameda County, Graymer, 2000.

23-15427 EES
Fig X Geology

Figure 3.5-2 Soils Underlying the City of Berkeley



*Imagery provided by Esri and its licensors © 2026. Additional data provided by USDA, 2022. * Soil types categorized by numbers are in Alameda County. Soil types categorized by letters are in Contra Costa County.*

Project Site

The landside portion of the project site was originally the open water of the San Francisco Bay that was gradually filled in with import soil and gravel from various, often undocumented, sources. As mapped by the U.S. Department of Agriculture, Natural Resource Conservation Service, the project site is composed entirely of heterogeneous artificial fill (urban land consociation)[8], the characteristics of which are highly variable and generally undocumented. Cesar Chavez Park, located north of the project site, was originally a City municipal landfill, which was landscaped in the early 1990s. Accordingly, the geologic literature indicates that the project site overlies artificial fill.

Landside borings conducted between August 28, 2024, and September 5, 2024, by Pitcher Services LLC detected up to 23 feet of artificial fill (Qaf).[9] This fill was likely placed on the South Cove Sailing Basin land during reclamation between 1966 to 1968. The City of Berkeley indicates that the fill was placed directly on native marine sediment underlying the site. There is no documentation of engineered compaction and due to the type of fill placement and era, it is unlikely the soil was compacted. In general, the fill encountered consists of soft to stiff lean clay over loose to dense clean and clayey sand and gravel with varying amounts of debris.

The borings also encountered dense to very dense sand and gravel material on the western shoreline of the Marina at approximately 6 feet bgs. Based on historical aerial photographs, this material appears to be associated with a rock dike placed on the western perimeter of the South Cove Sailing Basin between 1952 and 1957.[10]

Soil corrosion testing was completed on two samples of soil located at the intersection of University Avenue and Sewall Drive. Based on the resistivity measurements and chloride ion concentration from the collected samples, ENGEO classified the soil as severely corrosive to buried metal and concrete pursuant to ASTM D1498, D4972, G57, and D4327 standards.[11]

YOUNG BAY MUD

Recent marine deposits along the bay margins often consist of soft fat clay deposited in a low-energy, estuarine environment during the current interglacial period, beginning approximately 8,000 years ago. This material is often referred to as Young Bay Mud. Locally, Young Bay Mud can also contain thin, sandy interbeds. Young Bay Mud was encountered consistently between elevation 0 feet to elevation -6 feet throughout the project site; however, its characteristics varied significantly landside and offshore.

Two layers of offshore Young Bay Mud were encountered. The upper layer consisted of a very soft gray fine-grained material with an abundant amount of shells directly below the mudline. Laboratory testing and cone penetration test data indicated that this soil has undrained shear strengths of less than 100 pounds per square foot (psf). This unit is primarily recent sediments and is referred to as Recent Bay Deposits. Below the Recent Bay Deposits, soft to medium stiff Young Bay Mud intermixed with sand was encountered.

The Young Bay Mud encountered in the landside explorations consisted of gray and black (with hues of blue and green) normally consolidated soft to medium-stiff lean and fat clay with abundant shells

[8] United States Department of Agriculture, Natural Resources Conservation Service. 1975. Alameda County, California, Western Part. Available: https://babel.hathitrust.org/cgi/pt?id=uc1.31822028847473&seq=1 (accessed February 2026).
[9] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[10] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[11] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

and minor organics. The Young Bay Mud ranged in thickness between 5 to 14 feet, with the thinnest layer encountered below the rock dike and thicker deposits in the eastern and southern portions of the site. Triaxial strength and mini laboratory vane shear testing from samples of this Young Bay Mud indicate shear strengths ranging from 300 to 750 psf. Cone penetration tests corroborate the shear strength values, with undrained shear strength ranging from 500 to 800 psf, based on a cone factor (Nkt) of 14 (a conservative estimate). Additionally, natural water contents were measured in the unit varying between 27.6 to 86.7 percent; suggesting the presence of a fluctuating sand content. The stiffer Young Bay Mud on the landside is attributable to the weight of the fill placed on the marine deposits 60 years ago. In addition, the landside Young Bay Mud has experienced all primary consolidation resulting from land reclamation due to the time since fill placement.

SAN ANTONIO FORMATION (QAL 1)

The San Antonio Formation consists of estuarine and alluvial sediments lying between the Old Bay Clay (OBC) and Young Bay Mud layers. The material was deposited in a complex ever-changing depositional environment ranging from alluvial fans to flood plains to old broad channels infilled with stiff sandy clay underlain by sandy channel fill.

The San Antonio Formation encountered during geotechnical exploration consisted of yellowish brown, reddish brown, and reddish orange stiff clay with discontinuous lenses of medium dense to dense silt sand and clayey sand. Triaxial strength and mini laboratory vane shear testing of stiff clay samples collected in Modified California and Shelby Tube samplers indicate shear strengths ranging from 1,450 to 2,250 psf.

OLD BAY CLAY (OBC)

The San Antonio Formation is underlain by another interglacial marine deposit, colloquially named Old Bay Clay (OBC). This unit was deposited during the Sangamon interglacial period approximately 125,000 to 75,000 years ago. In general, OBC is typically described as moderately over-consolidated stiff clay with a characteristic greenish-blue hue, moderate plasticity and minor sand. The OBC encountered in borings consisted of gray, greenish gray and olive lean and fat clay with varying amounts of sand. In addition, there were lenses of gravel and sand interbedded in the OBC.

UPPER ALAMEDA FORMATION (OBC 2 TO 4 AND QAL 2 TO 4)

Below the Sangamon Old Bay Clay lies the late Pleistocene Alameda Formation that was deposited 1,000,000 to 500,000 years ago. This formation has spanned a number of interglacial periods of sea level rise, as well as the intervening glacial ages. Therefore, much of the unit is highly interbedded marine bay mud and terrestrial alluvium deposits corresponding to the cyclic glaciation. These deposits share similar attributes to the younger OBC and San Antonio formation units encountered at shallower depth; however, they typically increase in shear strength due their age and depth.

Expansive Soils

Hazard Characteristics

Soils with relatively high clay content that contain specific clay minerals (such as montmorillonite and smectite clays) are considered expansive, which indicates that they shrink and swell in response to changing water content. This action is characterized by a soil's "shrink-swell potential," and can damage building and structural foundations via the differential movement of soil. Special building/structure design or soil treatment are often needed in areas with expansive soils. Expansive

soils are typically very fine-grained with a high to very high percentage of clay. The clay minerals present typically include montmorillonite, smectite, and/or bentonite.

Project Site

Soil in the landside portions of the Project site has been classified as Urban Land Consociation, or general heterogeneous artificial fill, and a general specific shrink-swell potential for this soil type has not been established[12] due to its heterogeneity. Analysis of the artificial fill indicated that approximately half of it may experience cyclic softening in discontinuous layers.[13]

Waterside sediments are not subject to shrink-swell risks because submarine clays remain saturated and under constant pressure due to the water column.

Based on these findings, there are at least some soils with moderate to high shrink-swell potential in the landside portion of the project site, and likely additional such zones throughout the project site.

Seismicity

Seismic-related Hazard Types

The term seismicity describes the effects of seismic waves that are radiated from an earthquake fault in motion. While most of the energy released during an earthquake result in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. Seismicity can result in seismic-related hazards such as fault rupture, ground shaking, and liquefaction. Faults form in rocks when stresses overcome the internal strength of the rock, and fault rupture occurs when movement on a fault breaks through to the surface and can result in damage to infrastructure and persons. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. Strong ground shaking from an earthquake can result in damage, with buildings shifted off their foundations and underground pipes being broken. Liquefaction occurs when an earthquake causes ground shaking that results in saturated soil losing shear strength, deforming, and acting like a liquid. When liquefaction occurs, it can result in ground failure that can result in damage to roads, pipelines, and buildings.

Regional

The USGS defines active faults as those that have had surface displacement within the Holocene period (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are those that have had surface displacement during the last 1.6 million years. Inactive faults have not had surface displacement within that period. There are several faults located near or within Berkeley. Regional faults are shown in Figure 3.5-3. The major faults and fault zones are described below.

[12] United States Department of Agriculture, Natural Resources Conservation Service. 1975. Alameda County, California, Western Part. Available: https://babel.hathitrust.org/cgi/pt?id=uc1.31822028847473&seq=1 (accessed February 2026).
[13] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

SAN ANDREAS FAULT

The San Andreas Fault, the most likely source of a major earthquake in California, is located approximately 15 miles west of Berkeley and approximately 15 miles west of the project site. The San Andreas Fault is the primary surface boundary between the Pacific and the North American plates. There have been numerous historic earthquakes along the San Andreas Fault, and it generally poses the greatest earthquake risk to California. In general, the San Andreas Fault is likely capable of producing a Maximum Credible Earthquake (i.e., the largest magnitude earthquake that may occur) of 8.0.[14] An earthquake of moderate to high magnitude along the San Andreas Fault could cause considerable ground shaking at the project site.

HAYWARD FAULT

The Hayward Fault, one of ten major faults that make up the San Andreas Fault Zone, runs directly beneath Berkeley and links with the Rodgers Creek Fault to the north. The Hayward Fault is located approximately 3 miles east of the project site. Although the last major earthquake generated by the Hayward Fault was in 1868, pressure is slowly building again and will begin to overcome the friction and other forces that cause the fault zone to stick. According to a study of earthquake probabilities by the USGS, the fault system that includes the Hayward and Rodgers Creek faults has a 31 percent probability of generating an earthquake with a magnitude greater than or equal to 6.7 on the Mercalli Richter Scale in the next 20 years[15]. The Hayward Fault would likely cause extensive damage in Berkeley due to its proximity to urban communities and infrastructure. The Hayward Fault and surrounding area is a designated Alquist-Priolo Zone and is shown in Figure 3.5-4. An earthquake of moderate to high magnitude along the Hayward Fault could cause considerable ground shaking at the project site.

OTHER FAULTS

Other active faults in the vicinity include the Cabot, Moraga, and Wildcat Faults, and unnamed secondary faults adjacent to these located approximately 5 miles to the east of the project site. There are few or no studies pertaining to these additional secondary faults, and it is unknown whether they may or may not experience secondary ground rupture during a large earthquake.

Project Site

There are no mapped faults or Alquist-Priolo Zones that traverse the project site.

[14] Berkeley, City of. 2002. Berkeley General Plan Disaster Preparedness and Safety Element. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed August 2025).
[15] United States Department of Agriculture, Natural Resources Conservation Service. 1975. Alameda County, California, Western Part. Available: https://babel.hathitrust.org/cgi/pt?id=uc1.31822028847473&seq=1 (accessed February 2026).

Figure 3.5-3 Regional Faults



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Additional data provided by USGS, 2021 and the City of Berkeley, 2024.

23-15427 EES
Fig X Faults

Figure 3.5-4 Hayward Fault Zone of Required Investigation



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Additional data provided by California Geologic Survey, 2024.

23-15427 EES
Fig X Zone of Required Investigation

Seismic Hazards and Areas

Surface Rupture

HAZARD CHARACTERISTICS

Surface rupture refers to the displacement of the ground surface along a pre-existing fault. Fault rupture can endanger life and property if structures are constructed on, or cross over, a fault, due to the differential movement of the ground surface. The Alquist-Priolo Act directed the State Geologist to delineate regulatory "zones of required investigation," or Alquist-Priolo Fault Zones, to reduce the threat to public health posed by geologic faults and earthquakes (shown in Figure 3.5-4). Alquist-Priolo Fault Zones indicate areas with active faults that have the potential for surface rupture, and construction is restricted within 50 feet of an identified fault.

PROJECT SITE

There are no known faults within the project site[16] and it is not within an Alquist-Priolo Fault Zone.[17] The closest Alquist-Priolo Fault Zone, which also contains the closest known fault, is the Hayward Fault, located approximately 3 miles east of the project site (Figure 3.5-3).

Ground Shaking

Hazard Characteristics

As with virtually all of California, the project site is located in an area with the potential for ground shaking that may cause structural or property damage in the event of an earthquake. The San Francisco Bay area, in particular, is known as a seismically active zone with the potential for high-magnitude earthquakes due to the various major faults located in the area. The intensity of ground motion depends upon the magnitude of an earthquake, the distance from the epicenter, and the geology between the epicenter and the project site. Ground motion caused by earthquakes can be amplified in softer, unconsolidated soil, in which seismic wave velocity decreases but wave amplitude increases, as opposed to in harder material, such as bedrock. As amplitude increases, so does ground acceleration, and the ground shaking intensity.

Regional

A list of past earthquakes, occurring between 1900 and 2023, within 50 miles of the project site and having a magnitude of 4.5 or greater[18], are summarized in Table 3.5-1; a map illustrating the locations and magnitudes of these earthquakes is presented in Figure 3.5-5. The Hayward fault system has been assessed to have a 31 percent probability of generating an earthquake with a magnitude greater than or equal to 6.7 on the Mercalli Richter Scale in the next 20 years.[19] A seismic event with magnitude 6.7 or greater would have potential to damage structures and result in loss of property and risk to human health and safety.

[16] California Geological Survey. 2023. Fault Activity Map of California. State of California. Last Modified 2023. Available: https://maps.conservation.ca.gov/cgs/fam/ (accessed September 2024).
[17] California Geological Survey. 2024. Earthquake Zones of Required Investigation. Available:https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed September 2024).
[18] United States Geological Survey (USGS). 2024 Earthquake Catalog Interactive Map. Available:https://earthquake.usgs.gov/earthquakes/ (accessed September 2024).
[19] Berkeley, City of. 2002. Berkeley General Plan Disaster Preparedness and Safety Element. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed August 2025).

The USGS Unified Hazard Tool[20] calculates estimated peak ground acceleration (PGA) based on a given time horizon and on site-specific parameters and published earthquake hazard and probability maps. The PGA for the project site was calculated using Conterminous U.S. 2014 (v4.0.x) hazard model edition assuming a Site Class of B/C Boundary. The PGA for the project site was compared to the Modified Mercalli Scale[21] to provide a qualitative assessment of ground shaking.[22]

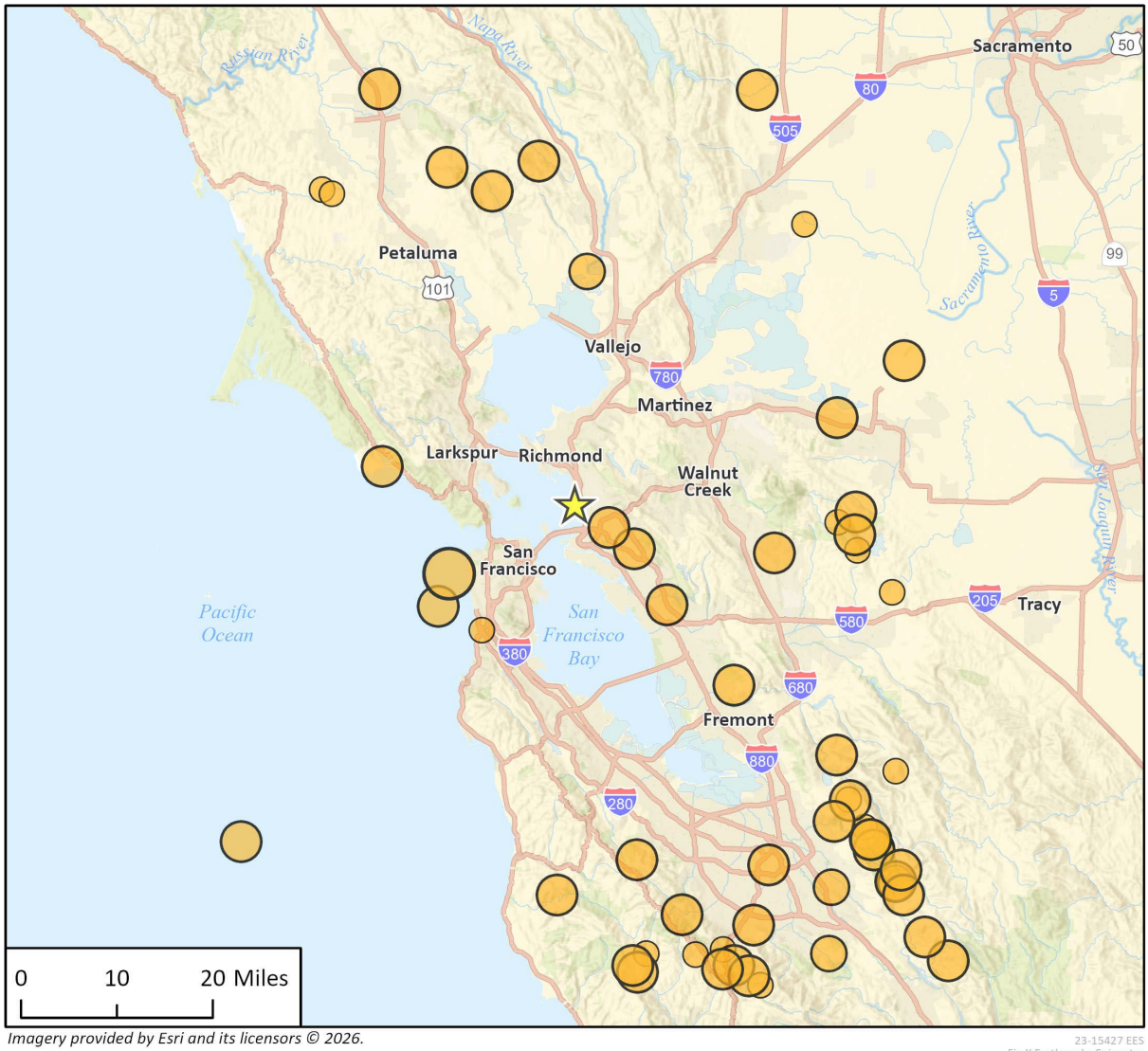
Table 3.5-1 Regional Earthquakes

Date	Magnitude	General Location
10/3/1973	4.6	(37.195, -121.575): Northeast of Morgan Hill, California
5/7/1979	4.8	(37.293, -121.664): East of Seven Trees, California
1/24/1980	5.8	(37.852, -121.815): Livermore, California
1/24/1980	5.1	(37.811, -121.775): East of Blackhawk, California
1/24/1980	4.8	(37.834, -121.781): East of Blackhawk, California
1/24/1980	4.6	(37.868, -121.780): Southwest of Brentwood, California
1/26/1980	5.4	(37.749, -121.706): Northeast of Livermore, California
1/15/1981	4.8	(37.375, -121.729): East of East Foothills, California
4/24/1984	6.2	(37.31, -121.679): Morgan Hill, California
3/31/1986	5.7	(37.479, -121.687): Northeast of East Foothills, California
6/12/1988	5.3	(37.393, -121.742): East of East Foothills, California
11/9/1988	4.8	(37.375, -121.730): East of East Foothills, California
4/3/1989	4.5	(37.432, -121.771): Northeast of East Foothills, California
8/8/1989	5.4	(37.148, -121.927): East-southeast of Lexington Hills, California
8/8/1989	4.5	(37.161, -121.95): East of Lexington Hills, California
10/17/1989	4.7	(37.238, -121.945): South-southwest of Cambrian Park, California
10/17/1989	4.6	(37.176, -121.978): North-northwest of Lexington Hills, California
10/17/1989	5.1	(37.190, -122.052): Southwest of Monte Sereno, California
10/17/1989	6.9	(37.036, -121.880): Santa Cruz Mountains, California
8/11/1993	4.7	(37.312, -121.679): East-southeast of Alum Rock, California
5/21/1996	4.7	(37.359, -121.722): East-southeast of East Foothills, California
8/17/1999	4.6	(37.907, -122.687): South of Bolinas, California
9/3/2000	4.9	(38.379, -122.413): West-southwest of Yountville, California
8/2/2006	4.5	(38.364, -122.589): West of Glen Ellen, California
10/30/2007	5.5	(37.434, -121.774): North-northeast of East Foothills, California
8/24/2014	6.0	(38.215, -122.312): South Napa, California
10/25/2022	5.1	(37.312, -121.672): East-southeast of Alum Rock, California

Source: United States Geological Survey (USGS). 2024 Earthquake Catalog Interactive Map. Available: https://earthquake.usgs.gov/earthquakes/ (accessed September 2024).

[20] United States Geological Survey (USGS). 2026. Earthquake Hazards Program: Unified Hazards Tool. Available: https://earthquake.usgs.gov/hazards/interactive/ (accessed January 2026).
[21] Kramer, S.L. and S.B. Upsall. 2006. Instrumental Intensity Scales for Geohazards. Proceedings, Geohazards, Engineering Conferences International. Available: https://dc.engconfintl.org/cgi/viewcontent.cgi?article=1015&context=geohazards (accessed February 2026).
[22] The PGA derived for this EIR is intended to offer a qualitative assessment of potential ground shaking and is not intended to provide information for use in engineering calculations or designs for the Project.

Figure 3.5-5 Past Regional Earthquake Epicenter Locations



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23-15427 EES
Fig X Earthquake Epicenter

Project Site

The project site has a 2 percent chance in 50 years of experiencing a PGA of approximately 90.62 percent of the acceleration of gravity (g-units; 0.9062g) when using a latitude and longitude of 37.86312 and -122.31626. This PGA corresponds to a "violent perceived shaking" and "heavy potential damage," based on the Modified Mercalli Scale.

Liquefaction and Lateral Spreading

Hazard Characteristics

Liquefaction is a process in which saturated soil temporarily becomes fluid during intense and prolonged ground shaking or because of a sudden shock or strain. Liquefaction potential is dependent on soil type, depth to groundwater, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (e.g., pipelines) may float toward the ground surface. Liquefaction can also occur underwater. Liquefied soil may be unable to support its own weight or that of structures that could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by emergence of a sand-water mixture. Liquefaction typically occurs in areas with loose sand or silt where groundwater is shallow (less than 30 feet below ground surface [ft bgs]).[23] Lateral spreading occurs when, during liquefaction, soil is not constrained laterally (is adjacent to a "free face") and flows horizontally.

Settlement is the vertical compression of the soil structure in response to a load, such as a building or compressive ground shaking in an earthquake. Settlement can be rapidly induced by liquefaction as sediments densify in response to the dissipation of pore water pressures (dewatering). Settlement can also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

Project Site

The project site is in an area mapped to contain artificial fill.[24] Borings results indicate that up to 23 feet of artificial fill was encountered. Further research indicated this fill was placed on the South Cove Sailing Basin land during reclamation between 1966 to 1968. The City of Berkeley indicates that the fill was placed directly on native marine sediment underlying the site.[25] There is no documentation of engineering compaction and due the type of fill placement and era, it is unlikely the soil was compacted. In general, the fill encountered consists of soft to stiff lean clay over loose to dense clean and clayey sand and gravel with varying amounts of debris.[26] The Berkeley General Plan identifies the low-lying areas adjacent to the San Francisco Bay, west of the Amtrak railroad tracks as having potential for liquefaction.[27] The project site lies within a Seismic Hazard Zone map

[23] State Mining and Geology Board. 2004. Recommended Criteria for Delineating Seismic Hazard Zones in California. Revised April.
[24] Graymer, R.W. 2000. Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California, U.S. Geological Survey Miscellaneous Field Studies Map MF-2342. Available: https://pubs.usgs.gov/mf/2000/2342/. (accessed February 2026).
[25] Berkeley, City of. 1986. Berkeley Waterfront Specific Plan. Available: https://berkeleyca.gov/sites/default/files/2022-02/1986%20-%20Waterfront%20Specific%20Plan.pdf (accessed January 2026).
[26] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[27] Berkeley, City of. 2002. Berkeley General Plan Disaster Preparedness and Safety Element. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed August 2025).

liquefaction zone[28] (Figure 3.5-6) and within an area of "very high" liquefaction risks.[29] Most of the landside area of the project site is stabilized with riprap against erosion and wave action. While not purely a "free face," riprap is not expected to be effective at addressing lateral spreading, because during liquefaction soil acts as a liquid and the cohesionless and permeable nature of riprap is poorly suited to containing liquefied sediment. The project site landside soils are likely susceptible to liquefaction and related settlement and lateral spreading that may result from a seismic event.

Subsidence and Collapse

Hazard Characteristics

Subsidence is the differential (lateral or vertical) movement of the ground due to the collapse of soil pore space, which occurs without the application of an external load, such as a building. Subsidence can also occur during the compressive ground shaking of an earthquake. Common causes of subsidence in California are the over-pumping of groundwater, which reduces pore pressure, or the decay of organic matter, such as peat, which allows the soil substrate to compress and surface elevations to decrease. Subsidence is generally viewed as a regional change in surface elevation; however, localized differential displacements of the ground surface can damage foundations and structures as does settlement.

Project Site

In the San Francisco Bay Area, historical land subsidence has only been observed in Santa Clara County,[30] and the project site is not in an area with known vertical displacement due to subsidence or collapse.[31]

Slope Stability and Landslides

Hazard Characteristics

Landslides are a form of mass wasting in which rocks or soil material travel downhill under the force of gravity in a slope failure. Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units that have a record of previous slope failure. There are numerous factors that affect the stability of the slope, including: slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking. Slope failures can also occur under water.

A site could be at risk of landslides occurring beneath its footprint that could undermine its foundational elements or could also be affected by landslides that originate off-site and travel downslope for a distance. Significant damage to structures and/or infrastructure can occur depending on the extent and energy of the landslide.

[28] California Geological Survey. 2024. Earthquake Zones of Required Investigation. Available: https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed September 2024).
[29] Robert C. Witter, Robert C. et al. 2006. Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California. Available: https://pubs.usgs.gov/of/2006/1037/ (accessed September 2025).
[30] Metropolitan Transportation Commission/Association of Bay Area Governments. 2021. Plan Area 2050 Draft Environmental Impact Report. Section 3.8, Geology, Seismicity, and Mineral Resources. https://planbayarea.org/sites/default/files/documents/2021-06/3.8%20Geology_DEIR.pdf (accessed February 2026).
[31] California Department of Water Resources. 2024. Sustainable Groundwater Management Act (SGMA) Data Viewer. Available: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#landsub (accessed September 2024).

Figure 3.5-6 Liquefaction Susceptibility Areas within Project Site



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Liquefaction data provided by USGS, 2010.

23-15427 EES
Fig X Liquefaction

Project Site

Seismic activity can also trigger landslides in the hill areas of the city.[32] Although the project site does not appear to have been assessed by the California Geologic Survey (CGS), slope stability and landslide risks are extremely low due to its virtually flat topography and because the closest known landslides are approximately 2.33 miles to the east on the flanks of San Pablo Ridge.[33]

The project site landside-waterside interface is stabilized with riprap, and the waterside submarine topography is gently sloping towards the west, based on bathymetric data, which limits the risk of a submarine landslide or mass wasting event.

Erosion

Hazard Characteristics

Erosion is a natural process whereby soil and weathered rock materials are worn away and transported, most commonly by wind or water. It is a naturally occurring phenomenon and in natural conditions is not hazardous. However, excessive erosion can contribute to landslides, siltation of streams, undermining of foundations, and ultimately the loss of structures. This action presents hazards to structures because it removes soils, which can undermine foundational elements, and transports and deposits the eroded material at other locations, which could cover roads, fill in reservoirs, and cause other impairments to infrastructure. Removal of vegetation tends to heighten erosion hazards.

Project Site

Soil exists on the landside portion of the project site that could experience erosion. However, much of the open space areas on the landside portion of the project site are vegetated, which reduces erosion. The shoreline perpendicular to the pier is made of armored rip-rap and no soils exists that could be eroded on the shoreline.

Paleontological Resources

Definitions

PALEONTOLOGICAL RESOURCES

Paleontological resources, or fossils, are the remains and traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils is a result of the sedimentary history of the geologic units within which they occur. Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. Although it is not possible to determine whether a fossil will occur in any specific location, it is possible to evaluate the potential for geologic units to occur within Berkeley.

[32] Berkeley, City of. 2002. Berkeley General Plan Disaster Preparedness and Safety Element. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed August 2025).
[33] California Geological Survey. 2024. Landslide Inventory Database. Available: https://maps.conservation.ca.gov/cgs/lsi/app/ (accessed September 2024).

To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are typically older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

PALEONTOLOGICAL SENSITIVITY

Absent specific agency guidelines, most professional paleontologists in California adhere to guidelines set forth by the Society of Vertebrate Paleontology (SVP)[34] in "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources." These guidelines establish detailed protocols for the assessment of the paleontological resource potential, or "sensitivity" of a project area and include measures to follow to mitigate adverse impacts to known or unknown fossil resources during project development. Using baseline information gathered during a paleontological resource assessment, the paleontological resource potential of the geologic unit(s) or members thereof underlying a project area can be assigned to a high, undetermined, low, or no paleontological sensitivity category, as defined by SVP.[34] This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and geologic processes. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, and evolutionary rates. Even unidentifiable material can provide useful data for dating geologic units if radiometric dating is possible. Therefore, common fossils, especially vertebrates, may be scientifically important, and therefore considered highly significant.

In general, for geologic units with high sensitivity, full-time monitoring is recommended during any project-related ground disturbance. For geologic units with low sensitivity, protection or salvage efforts are not required. For geologic units with undetermined sensitivity, field surveys by a qualified paleontologist are usually recommended to specifically determine the paleontological potential of the rock units present. For geologic units with no sensitivity, a paleontological monitor is not required.

[34] Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.

Project Site Landside Paleontological Sensitivity

Terrestrial portions of the project site are artificial fill (Figure 3.5-1).[35] The nearest mapped surficial exposures of non-fill sediments lie approximately 0.5 miles east of the eastern boundary of the project site.

Artificial fill is human-deposited sediment used to change the elevation and/or physical properties of the land. Urban development around the shores of San Francisco Bay has created vast areas of artificial fill.[36, 37] Artificial fill consists of sediment removed from its original stratigraphic context. This artificial fill layer was encountered up to 23 feet below the surface.[38] Artificial fill cannot preserve scientifically significant paleontological resources and has no paleontological sensitivity.

Project Site Waterside Paleontological Sensitivity

The offshore sediments within the project site are not assigned to any named geologic unit, as they represent modern to Holocene-age deposits that are still forming and, therefore, lack the continuity required for formal designation. This offshore area is undergoing active deposition, so the uppermost layers of sediment are too young (i.e., less than 5,000 years old) to preserve paleontological resources. Radbruch[39] described the stratigraphy of a borehole drilled offshore within the Project site. Beneath 11.5 feet of water, the sediment consisted of 7 feet of sandy mud underlain by 19.5 feet of sandy clay. However, Holocene-aged (including modern) sediments increase in age with depth, and at some point below the surface, likely varying within the project site, become old enough to preserve paleontological resources. Paleontological resources have been discovered during ground-disturbing activities affecting offshore sediments (or offshore sediments since covered in artificial fill) in Alameda County, including for the construction of the Webster Street Tube, Aquatic Park, Bay Bridge, and Berkeley Municipal Wharf.[40, 41] The depth of these discoveries was not documented, so the age-depth relationship of the offshore sediments within the project site cannot be estimated. Therefore, offshore sediments within the project site are assigned undetermined paleontological sensitivity.

[35] Blake, M.C., R.W. Graymer, D.L. Jones, and A. Soule. 2000. Geologic map and map database of part of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California. Miscellaneous Field Studies Map MF-2337, scale 1:75,000. Available: https://pubs.usgs.gov/mf/2000/2337/. (accessed February 2026).
[36] Graymer, R.W. 2000. "Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California," U.S. Geological Survey Miscellaneous Field Studies Map MF-2342. Available: https://pubs.usgs.gov/mf/2000/2342/. (accessed February 2026).
[37] Blake, M.C., R.W. Graymer, D.L. Jones, and A. Soule. 2000. Geologic map and map database of part of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California. Miscellaneous Field Studies Map MF-2337, scale 1:75,000. Available: https://pubs.usgs.gov/mf/2000/2337/. (accessed February 2026).
[38] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[39] Radbruch, D.H. 1957. Areal and engineering geology of the Oakland West quadrangle, California. [map.] United States Geological Survey. Miscellaneous Geologic Investigations Map I-239, scale 1:24,000. Available: https://ngmdb.usgs.gov/Prodesc/proddesc_437.htm (accessed February 2026).
[40] City of Berkeley Ordinance Section 6.08 identifies the Berkeley Municipal Wharf as distinct from the existing closed pier, and is the portion of the 1927 pier that remains abandoned beyond the closed pier. The records from the UCMP and Savage (1951) refer to "Berkeley Municipal Wharf" for specimens collected in 1936. However, because the exact location of the fossil is not known, it is unclear whether the location is near the Berkeley Municipal Wharf or the closed pier. For that reason, the term Berkeley Municipal Wharf is used.
[41] Savage, D.E. 1951. Late Cenozoic vertebrates of the San Francisco Bay region. University of California Publications Bulletin of the Department of Geological Sciences. Volume 28(10), pp. 215-314.

3.5.3 Regulatory Framework

Federal Regulations

Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities, improved building codes and land use practices, risk reduction through post-earthquake investigations and education, development and improvement of design and construction techniques, improved mitigation capacity, and accelerated application of research results. The NEHRPA designates FEMA as the lead Federal agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and the USGS.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (California Public Resources Code (PRC) Sections 2621–2630) was passed in 1972 to reduce the hazard of surface faulting to structures designed for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. The Alquist-Priolo Act requires the State Geologist to establish regulatory zones known as Earthquake Fault Zones around the surface traces of active faults and to issue appropriate maps. An active fault, for the purposes of the Alquist-Priolo Act, is one that has ruptured in the last 11,000 years. The maps are distributed to all affected cities, counties, and State agencies for their use in planning efforts. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) addresses earthquake hazards from non-surface fault rupture, including liquefaction and seismically induced landslides. This act established a mapping program for areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake and geologic hazards. This act also specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites, and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

Construction Stormwater General Permit

The California Construction Stormwater Permit (Order WQ 2022-0057-DWQ; NPDES No. CAS000002) regulates construction activities that disturb at least one acre of land, authorizing stormwater discharges to surface waters while prohibiting non-stormwater discharges and hazardous substances above regulatory limits. Developers must complete a risk assessment, eliminate or reduce non-stormwater discharges, and develop a Stormwater Pollution Prevention Plan (SWPPP) detailing Best Management Practices (BMPs) to minimize pollution. To obtain coverage under the NPDES permit, developers must electronically file permit registration documents, including a Notice of Intent, risk assessment, site map, SWPPP, and fee, with the State Water Resources Control Board before construction begins. The SWPPP must identify erosion control measures, sediment control, pollutant management, and post-construction runoff management, along with a program for BMP inspection and maintenance.

California Public Resources Code Section 5097.5

PRC Section 5097.5 defines a misdemeanor as any unauthorized disturbance or removal of a historic or prehistoric ruin, burial ground, or archaeological or vertebrate paleontological site on public lands, without the express permission of the public agency having jurisdiction over the lands. This protection includes fossilized footprints, inscriptions, or other archaeological, paleontological, or historical features on public land. Public land means lands that are owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof.

California Building Code Chapter 18, Division 1 Section 1803.2 and 1804.5

The methodology and scope for a geotechnical investigation are described in California Building Code (CBC) Section 1803, and requires an assessment of a variety of factors, such as slope stability, soil strength, adequacy of load-bearing soils, the presence of compressible or expansive soils, and the potential for liquefaction. The required content of the geotechnical report includes recommendations for foundation type and design criteria. These recommendations can include foundation design provisions that are intended to mitigate the effects of expansive soils, liquefaction, and differential settlement. In general, mitigation can be accomplished through a combination of ground-modification techniques (i.e., stone columns, reinforcing nail and anchors, deep soil mixing, etc.), selection of an appropriate foundation type and configuration, and use of appropriate building/foundation structural systems.

The International Building Code replaced earlier regional building codes, including the Uniform Building Code, in 2000 and established consistent construction guidelines for the nation. In 2006, the International Building Code was incorporated into the CBC (Cal. Code Regs., Title 24) and currently applies to all structures being constructed in California. The national model codes are therefore incorporated by reference into the building codes of local municipalities. The CBC includes building design and construction criteria that take into consideration the State's seismic conditions.

California Code of Regulations, Title 24, Part 2 - California Building Code

Title 24, Part 2 of the California Code of Regulations (the California Building Code) contains specific requirements for construction with respect to earthquakes and seismic hazards intended to be protective of public health. Chapter 16, Section 1613, Earthquake Loads of the Code deals with structural design and requires that every structure, and portion thereof, including nonstructural

components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions.

Regional and Local Regulations

Alameda County Hazard Mitigation Plan

The Alameda County Local Hazard Mitigation Plan (LHMP) was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 and updated in 2021 as a plan to reduce the risk of natural disasters within the County, which includes but is not limited to earthquake, wildland-urban interface, fire, flood, landslide, tsunami, and also hazardous materials releases, climate change, extreme heat events, and terrorism. The LHMP also identifies that hazardous materials release can be a secondary impact of a natural hazard, specifically in the event of a flood.[42]

Berkeley Local Hazard Mitigation Plan (LHMP)

Berkeley is exposed to several natural and human-caused hazards that vary in their intensity and impacts on the city. The LHMP addresses earthquake, wildland-urban interface, extreme heat, poor air quality, high wind, rainfall-triggered landslide, tsunami, sea level rise, floods, utility interruption, hazardous materials release, and infectious disease. The 2024 LHMP specifies that the City has not recently experienced hazardous materials releases as a cascading impact of a natural hazard, and that climate change is no longer treated as a standalone hazard. Instead, climate change is integrated throughout the document to frame the discussion around standalone hazards as a cross-cutting factor that influences risk and vulnerability.

The Berkeley 2024 LHMP serves three main functions:

- The 2024 LHMP documents the City's current understanding of the hazards present in Berkeley, along with their vulnerabilities to each hazard – the ways that the hazard could impact buildings, infrastructure, community, and environment.
- The LHMP presents Berkeley City government's Mitigation Strategy for the coming five years. The Mitigation Strategy reflects a wide variety of both funded and unfunded actions, each of which could reduce Berkeley's hazard vulnerabilities.
- By fulfilling requirements of the Disaster Mitigation Act of 2000, the 2024 LHMP ensures that Berkeley will remain eligible to apply for mitigation grants before disasters, and to receive federal mitigation funding and additional State recovery funding after disasters.[43]

Berkeley General Plan

The following policies from the Berkeley General Plan Disaster Preparedness and Safety Element are applicable to the proposed project.

POLICY S-13 HAZARDS IDENTIFICATION

Identify, avoid and minimize natural and human-caused hazards in the development of property and the regulation of land use. Actions:

[42] Alameda County. 2022. Final 2021 Alameda County Local Hazard Mitigation Plan. Available: https://lhmp.acgov.org/documents/FinalHMP_AlamedaCo_Mar2022.pdf (accessed May 2025).
[43] Berkeley, City of. 2025. 2024 Local Hazard Mitigation Plan (LHMP). Berkeley, CA. Available: https://berkeleyca.gov/sites/default/files/documents/Final%202024%20LHMP%20SENT%20TO%20FEMA%20NOVEMBER%2027.pdf (accessed May 2025).

A. Maintain and make publicly available up-to-date hazards maps identifying areas subject to heightened risk from potential seismic hazards (including fault rupture, ground failure, ground shaking, and liquefaction), and fire, flood, landslide, and other hazards, such as toxic contamination and radioactive release.
B. Improve the understanding of identified hazards and mitigation needs via area-specific studies such as microzonation studies.

POLICY S-14 LAND USE REGULATION

Require appropriate mitigation in new development, in redevelopment/reuse, or in other applications.

A. Require soil investigation and/or geotechnical reports in conjunction with development/redevelopment on sites within designated hazard zones such as areas with high potential for soil erosion, landslide, fault rupture, liquefaction and other soil-related constraints.
B. Place structural design conditions on new development to ensure that recommendations of the geotechnical/soils investigations are implemented.
C. Encourage owners to evaluate their buildings' vulnerability to earthquake hazards, fire, landslides, and floods and to take appropriate action to minimize risk.
D. Develop criteria for disaster-resistant land use regulations to ensure that new construction reduces rather than increases risk of all kinds.

POLICY S-15 CONSTRUCTION STANDARDS

Maintain construction standards that minimize risks to human lives and property from environmental and human-caused hazards for both new and existing buildings.

POLICY S-20 MITIGATION OF POTENTIALLY HAZARDOUS BUILDINGS

Pursue all feasible methods, programs, and financing to mitigate potentially hazardous buildings.

A. Periodically update and adopt the California Building Standards Code with local amendments to incorporate the latest knowledge and design standards to protect people and property against known fire, flood, landslide, and seismic risks in both structural and non-structural buildings and site components.
B. Ensure proper design and construction of hazard-resistant structures through careful plan review/approval and thorough and consistent construction inspection.

Berkeley Municipal Code

Chapter 19.28 of the City of Berkeley Municipal Code adopts the California Building Code as adopted in Title 24 Part 2 of the California Code of Regulations, including Appendices I, J and P, which include building standards and requirements for the construction of structures.

3.5.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Geology and Soils. Would the proposed project:

a) Directly or indirectly cause 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?
   ii. Strong seismic ground shaking?
   iii. Seismic-related ground failure, including liquefaction?
   iv. Landslides?
b) Result in substantial soil erosion or the loss of topsoil?
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?
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirectly risks to life or property?
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Approach to Analysis

Geologic/Soil Hazards

This environmental analysis of the potential impacts related to geology and soils is based on a review of literature and database research (geologic, seismic, and soils reports and maps), as well as applicable federal and State regulations and the Berkeley General Plan.

The proposed project would be governed by the various laws, regulations, and policies summarized above in Section 3.6.3, *Regulatory Framework*. This analysis assumes that the proposed project would comply with applicable federal, State, and local laws and regulations, and local and State agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

After considering compliance with the relevant regulatory requirements, the environmental analysis identifies if the defined significance thresholds are exceeded, and therefore, a significant impact would occur. For those impacts considered to be significant, mitigation measures are proposed to the extent feasible to reduce the identified impacts.

Paleontological Resources

Published geologic maps and primary literature were reviewed to identify the geologic units present at and below the surface within the project site[44,45] and then assigned these geologic units a paleontological sensitivity. According to the Society of Vertebrate Paleontology[46] classification system, geologic units can be assigned a high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources. The paleontological sensitivity assessments were based on the known fossil record for each geologic unit as evidenced by the primary literature[47] and the University of California Museum of Paleontology online fossil databases.[48]

All vertebrate, invertebrate, and plant fossils are generally categorized as being of potentially significant scientific value.[49] The potential for construction-related activities to damage or destroy paleontologically-sensitive rock units would depend on the paleontological sensitivity of the affected sediments and the volume of sediment disturbed.

The SVP, a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that identify acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation.[50] Most practicing professional paleontologists in the nation adhere to the SVP's assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to concerns regarding geology and soils.

The City received comments from organizations and individuals regarding earthquake risks, seismic risks, erosion related to wake, and liquefaction. Earthquake risks are addressed in Impact GEO-1 and Impact GEO-2. Seismic risks are addressed in Impact GEO-1 through Impact GEO-5 and erosion is addressed in Impact GEO-4. Liquefaction is addressed in Impact GEO-3.

[44] Graymer, R.W. 2000. "Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California," U.S. Geological Survey Miscellaneous Field Studies Map MF-2342. Available: https://pubs.usgs.gov/mf/2000/2342/. (accessed February 2026).
[45] Blake, M.C., R.W. Graymer, D.L. Jones, and A. Soule. 2000. Geologic map and map database of part of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California. Miscellaneous Field Studies Map MF-2337, scale 1:75,000. Available: https://pubs.usgs.gov/mf/2000/2337/. (accessed February 2026).
[46] Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee. Available: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf (accessed September 2025)
[47] Jefferson, G.T. 2010. A catalogue of late Quaternary vertebrates from California. Natural History Museum of Los Angeles County Technical Report. Volume 7, pp. 5-172.
Savage, D.E. 1951. Late Cenozoic vertebrates of the San Francisco Bay region. University of California Publications, Bulletin of the Department of Geological Sciences. Volume 28, pp. 215-314.
[48] University of California Museum of Paleontology. 2024. UCMP online database specimen search portal, Available: http://ucmpdb.berkeley.edu/ (accessed September 2024).
[49] Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.
[50] Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of geology, soils, and paleontological resources impacts resulting from implementation of the proposed project.

- Place structures on or within the State designated zone of a known earthquake fault.
- Place structures where seismic ground shaking of a strong level or greater according to the Mercalli Scale could occur.
- Place structures on soils prone to any level of liquefaction.
- Place structures on slopes greater than 15 percent or soils susceptible to failure as defined by the USGS.
- Place structures in areas without impervious surfaces or vegetation, or on slopes greater than 15 percent.
- Place structures on a geologic unit or soil that is unstable or that could become unstable.
- Place structures on expansive soil that has an expansion index greater than 20 as defined in Table 18-1-B of the Uniform Building Code (1994).
- Place septic tanks or alternative wastewater disposal systems on soils incapable of supporting the use.
- Physically damage or destroy paleontological resources.

Impact Evaluation

Earthquake Fault Rupture Risk

Significance Criterion a(i)	Would the proposed project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?

Impact GEO-1 THE PROPOSED PROJECT WOULD NOT DIRECTLY OR INDIRECTLY CAUSE POTENTIAL SUBSTANTIAL ADVERSE EFFECTS INCLUDING THE RISK OF LOSS, INJURY, OR DEATH INVOLVING RUPTURE OF A KNOWN EARTHQUAKE FAULT AS DELINEATED ON THE MOST RECENT ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING MAP AS IT IS NOT LOCATED WITHIN AN ALQUIST-PRIOLO EARTHQUAKE FAULT ZONE. NO IMPACT WOULD OCCUR.

Construction and Operation

There are no known faults within the project site[51] (Figure 3.5-3) and it is not in an Alquist-Priolo Fault Zone.[52] The closest Alquist-Priolo Fault Zone, which also contains the closest known fault - the Hayward Fault, is located approximately 3 miles east of the project site (Figure 3.5-3). The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk

[51] California Geological Survey. 2023. Fault Activity Map of California. State of California. Last Modified 2023. Available: https://maps.conservation.ca.gov/cgs/fam/ (accessed September 2024).
[52] California Geological Survey. 2024. Earthquake Zones of Required Investigation. Available: https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed September 2024).

of loss, injury, or death involving rupture of a known earthquake fault. Therefore, there would be no construction or operational impact related to earthquake fault rupture risk.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

Seismic-related Risk

Significance Criterion a(ii):	Would the proposed project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Impact GEO-2 THE PROPOSED PROJECT WOULD NOT DIRECTLY OR INDIRECTLY CAUSE POTENTIAL SUBSTANTIAL ADVERSE EFFECTS INCLUDING THE RISK OF LOSS, INJURY, OR DEATH INVOLVING STRONG SEISMIC GROUND SHAKING. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Impacts related to risks associated with seismic-related hazards are limited to operational impacts. No respective construction impacts would occur.

Operation

The project site is in a seismically active area. Due to proximity to the Hayward Fault, the project site would be susceptible to "severe" ground shaking[53] during a reasonably likely earthquake. However, risks related to structural damage or failure would be addressed via compliance with CBC engineering design and construction measures, which require foundations and other structural support features to resist or absorb damaging forces from strong ground shaking. Although the risk of sustaining an earthquake with higher ground accelerations can never be completely eliminated, compliance with all applicable provisions of the CBC would ensure that potential impacts from ground-shaking would be minimized to the extent possible. The City of Berkeley has adopted the CBC by reference pursuant to Title 19, Chapter 28 of the Berkeley Municipal Code. The City of Berkeley Building Codes includes requirements for foundation and structural design to resist seismic hazards. In addition, the Building Codes establishes specific instances of when geotechnical investigations are required based on soil conditions and proposed construction methods, including for projects within Earthquake Fault Zones or Seismic Hazard Zones. The proposed project would be reviewed by the Building and Safety Division during the normal plan review process to confirm that the necessary geotechnical investigations are completed and that the structural design of the project is consistent with design measures recommended in the Geotechnical report prior to issuance of required building permits. The City would ensure that development would be designed and constructed consistent with the current City of Berkeley Building Codes and with the findings and recommendations of the site-specific geotechnical report to effectively minimize or avoid potential hazards associated with project construction. Project construction would be required to

[53] Metropolitan Transportation Commission/Association of Bay Area Governments. 2025. MTC/ABAG Online Hazards Viewer. Available: https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8 (accessed September 2025)

comply with the seismic safety requirements in the International Building Code, the California Building Code, and the City of Berkeley Building Code.

Additionally, project construction would be required to comply with the American Society of Civil Engineers (ASCE) *Seismic Design of Piers and Wharves (61-14)* guidelines. Seismic design of the proposed project would be required to follow the displacement-based method described in ASCE 61-14. Because the ferry landing pier is an "essential" facility that needs to be operational after a seismic event, the seismic performance criteria used for design is more stringent than the design classification "High" as described in ASCE 61-14 Section 2.2.1. As there is no clear guidance for essential facilities in ASCE 61-14, a more rigorous criteria was developed by the designers who are preparing the project design. Using the more rigorous criteria, should a Maximum Considered Earthquake occur, the proposed project should result in controlled and repairable damage.[54]

Compliance with such requirements and guidelines would reduce seismic ground shaking impacts to the maximum extent practicable with current engineering practices. Furthermore, the project would be required to incorporate all recommendations included in the Geotechnical Investigation.[55] The project would not increase ground-shaking hazards at adjacent properties. Therefore, construction and operational impacts related to strong seismic ground shaking risk would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Unstable Geologic Unit Risk

Significance Criterion a(iii) & a(iv):	Would the proposed project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction or landslides?
Significance Criterion c:	Would the proposed project 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?

Impact GEO-3 THE PROPOSED PROJECT IS LOCATED WITHIN A LIQUEFACTION ZONE. HOWEVER, COMPLIANCE WITH ENGINEERING RECOMMENDATIONS WOULD REDUCE POTENTIAL IMPACTS RELATED TO LIQUEFACTION TO LESS THAN SIGNIFICANT.

The project site lies within a Seismic Hazard Zone map liquefication zone[56] (Oakland West; Figure 3.5-6), and within an area of “very high” liquefaction risks.[57]

[54] COWI. 2025. Berkeley Water Transportation Pier Ferry Project: Basis of Design 60% Submittal. December 12.
[55] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[56] California Geological Survey. 2024. Earthquake Zones of Required Investigation. Available: https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed September 2024).
[57] Robert C. Witter, Robert C. et al. 2006. Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California. Available: https://pubs.usgs.gov/of/2006/1037/ (accessed September 2025).

Construction

Impacts related to risks associated with location on an unstable geologic unit or soil are limited to operational impacts. No respective construction impacts would occur.

Operation

SUBSIDENCE AND COLLAPSE

In the San Francisco Bay Area, historical land subsidence has only been observed in Santa Clara County,[58] and the project site is not in an area with known vertical displacement due to subsidence or collapse.[59] The project site does not appear to be susceptible to subsidence or collapse. Therefore, no operational impact related to unstable geologic unit risk specific to subsidence or collapse would occur.

LANDSLIDES

Although the project site does not appear to have been assessed by the CGS, landslide risks are low due to its virtually flat topography and because the closest known landslides are approximately 2.33 miles to the east on the flanks of San Pablo Ridge.[60, 61] The landside-waterside interface is stabilized with riprap, and the waterside submarine topography is gently sloping towards the west, based on bathymetric data, which minimizes the risk of a submarine landslide or mass wasting event. Therefore, the project site does not appear to be susceptible to landslides. Because the proposed project would include the addition of 5.5-feet of fill at the pier plaza to achieve planned finished grade, the proposed project would require a perimeter retaining wall. The perimeter retaining wall would be constructed on the shoreline to retain the additional fill and prevent landsliding into the bay. Therefore, no operational impact related to unstable geologic unit risk specific to landslides would occur.

LIQUEFACTION AND LATERAL SPREADING

The project site is mapped in a State of California Seismic Hazard Zone[62] for areas that may be susceptible to liquefaction. Soils considered most susceptible to liquefaction are clean, loose, saturated, uniformly graded fine sand below the groundwater table. Empirical evidence indicates that loose silty sand is also potentially liquefiable. When seismic ground shaking occurs, the soil is subjected to cyclic shear stresses that can cause excess pore-water pressures to develop. If excess pore-water pressures exceed the effective confining stress from the overlying soil, the sand is said to have liquefied, and if the liquefied sand consolidates or vents to the surface, ground settlement and surface deformation may occur.

Operation of facilities in the water may be less at risk to liquefaction, because of the fine-grained nature (high clay content) of the young Bay mud, which makes it less prone to earthquake-induced

[58] MTC/ABAG. 2021. Plan Area 2050 Draft Environmental Impact Report. Section 3.8, Geology, Seismicity, and Mineral Resources. https://planbayarea.org/sites/default/files/documents/2021-06/3.8%20Geology_DEIR.pdf (accessed February 2026).
[59] California Department of Water Resources. 2024. Sustainable Groundwater Management Act (SGMA) Data Viewer. Available: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#landsub (accessed September 2024).
[60] California Geological Survey. 2024. Landslide Inventory Database. Available: https://maps.conservation.ca.gov/cgs/lsi/app/ (accessed September 2024).
[61] California Geological Survey. 2025. CGS Seismic Hazards Program: Landslide Zones. Available: https://gis.data.ca.gov/datasets/cadoc::cgs-seismic-hazards-program-landslide-zones/explore?location=35.540221%2C-119.820300%2C6.98 (accessed June 2025).
[62] California Geological Survey. 2024. Liquefaction Zones. Available: https://www.arcgis.com/apps/mapviewer/index.html?layers=fcf1ebfe19be49819a12c404d74b4a7d (accessed June 2025).

liquefaction. Based on soil testing performed by ENGEO, the soil logged as sandy lean clay and clayey sand at the project site would not be susceptible to liquefaction.[63] However, there still remains the potential for liquefaction to occur, resulting in damage at the waterside components of the proposed project. Implementation of geotechnical recommendations, such as the use of deep soil mix, retaining wall recommendations, and continued geotechnical engineer oversight would reduce potential impacts related to liquefaction and lateral spreading.[64]

Based on a groundwater table elevation of 5 feet, soil testing results indicated there were discontinuous layers of liquefiable soil within the artificial fill. Soil in the San Antonio formation may experience a nominal amount of liquefaction. During soil testing, several attempts were made to complete cone penetration tests within the proposed plaza area and shallow refusal was encountered; cone penetration tests were then attempted to be relocated. The eventual breakthrough likely indicated a weaker zone within the perimeter rock dike. Therefore, liquefaction would not be consistent throughout the plaza area. The liquefaction analysis of the artificial fill indicated that approximately half of the area may experience liquefaction or cyclic softening in discontinuous layers.

Most of the existing landside features of the project site are stabilized with riprap against erosion and wave action. While not purely a "free face,"[65] riprap is not expected to be effective at addressing lateral spreading, because the cohesionless and permeable nature of riprap is poorly suited to containing liquefied sediment.

Based on the findings further discussed in the Geotechnical Report, the landside project site soils are susceptible to liquefaction and associated settlement and lateral spreading that may result from a seismic event.[66] Consistent with Berkeley General Plan Policy S-14, which requires soil investigation and/or geotechnical reports for the project, implementation of recommendations included within the Geotechnical Report would be required as part of project design and prior to operation. The geotechnical report soil stabilization recommendations would be required for all proposed project landside and waterside components. Specifically, the use of deep soil mix, retaining wall recommendations, and continued geotechnical engineer oversight would reduce construction and operational impacts related to unstable geologic unit risk specific to liquefaction and lateral spreading to less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

[63] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[64] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[65] Free face rip rap is defined as rocks that are stacked up without anything holding them in place—like glue or cement.
[66] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

Soil Erosion or Topsoil Loss

Significance Criterion b:	Would the proposed project result in substantial soil erosion or the loss of topsoil?

Impact GEO-4 THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL EROSION OR THE LOSS OF TOPSOIL, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Construction of the proposed project, including initial construction of infrastructure, would require grading and excavation. Grading and excavation activities would temporarily expose bare soils, which could be removed from the site and transported through wind or stormwater runoff. Because the disturbance area would be greater than one acre, construction activities would be subject to the National Pollutant Discharge Elimination System Construction General Permit and would be required to develop a SWPPP, as discussed under Section 3.6.3, *Regulatory Setting.* Permit conditions require preparation of a SWPPP, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-storm water management controls.

The SWPPP would include BMPs to reduce soil erosion and sedimentation. BMPs include but are not limited to the development of inspection and maintenance procedures for stormwater control, containment of leaks and spills of pollutants in storage areas on-site, prevention of sediment flow into storm drains, and watering of exposed soil to reduce erosion. Additionally, the proposed project would require a grading permit. Grading and drainage plans accompanying the permit application must include BMPs for erosion prevention and sediment control, fencing at waterways and in sensitive areas, and limitation of disturbed areas through temporary features. The permit applications must also demonstrate compliance with NPDES Municipal Separate Storm Sewer System Permits (MS4) provisions. Enforcement of these permit requirements would reduce soil erosion impacts. With mandatory implementation of the SWPPP and erosion control measures, construction of the proposed project would not result in substantial soil erosion or the loss of topsoil. Therefore, construction impacts related to soil erosion or topsoil loss would be less than significant.

Operation

Operation of landside components of the project would not contribute to erosion or loss of topsoil because operational activities would be limited to roadways, parking areas, or the public plaza. Operation of the ferry vessels could generate some wake; however, the wake associated with the ferry vessels would not be different than the wake already generated in the project vicinity from existing vessels.[67] In addition, the shoreline around the project site is made of armored rip rap; therefore, there is no soil that could be eroded. Finally, the ferry vessels approaching the project site would reduce speed to 8 knots or less when approaching the Berkeley pier boarding float.[68] For these reasons, operational impacts on erosion or loss of topsoil would be less than significant.

[67] For this analysis, "vicinity" encompasses the Berkley Marina, the waters surrounding the Berkeley Pier, and the nearshore area extending approximately 0.5 mile offshore, while "vessels" refers to watercraft currently operating in the Berkeley Marina and adjacent Bay waters, including recreational boats, yachts, and small commercial craft.
[68] 8 knots is equal to approximately 9.2 miles per hour.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant.

Expansive Soil Risk

Significance Criterion d:	Would the proposed project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Impact GEO-5 THE LANDSIDE PROJECT COMPONENTS OF THE PROPOSED PROJECT WOULD POTENTIALLY BE LOCATED WITHIN EXPANSIVE SOILS. COMPLIANCE WITH CALIFORNIA BUILDING CODE AND GEOTECHNICAL REPORT RECOMMENDATIONS WOULD RESULT IN IMPACTS THAT ARE LESS THAN SIGNIFICANT.

Construction

Impacts related to risks associated with location on expansive soil are limited to operational impacts. Construction of the proposed project would comply with the CBC and applicable federal, State, and local regulations that would ensure construction activities would not cause direct or indirect impacts to nearby properties in areas where expansive soils could potentially exist. No respective construction impacts would occur.

Operation

Waterside sediments are not subject to shrink-swell risks, because submarine clays remain saturated and under constant pressure due to the water column.

Soil in the landside portions of the project site is classified as Urban Land Consociation, or general heterogeneous artificial fill, and a general specific shrink-swell potential for this soil type has not been established[69] due to its heterogeneity. Based on the findings within the Geotechnical Report, there are at least some soils with moderate to high shrink-swell potential throughout the project site's proposed landside components.[70] Compliance with the CBC would reduce the risk to life and property involving expansive soil. Furthermore, recommendations for ground improvements, earthwork, and foundations would be required to be incorporated into the project design and would be verified by the City prior to the issuance of a building permit, consistent with Berkeley General Plan Policy S-14. Compliance with the CBC and incorporation of the design features related to expansive soils recommended in the Geotechnical Report would result in impacts being less than significant.

Mitigation Measures

No mitigation would be required.

[69] United States Department of Agriculture, Natural Resources Conservation Service. 1975. Alameda County, California, Western Part. Available: https://babel.hathitrust.org/cgi/pt?id=uc1.31822028847473&seq=1 (accessed February 2026).
[70] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

Level of Significance

Less Than Significant

Soils Incapable of Supporting Alternative Wastewater Disposal Systems

Significance Criterion e:	Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Impact GEO-6 THE PROPOSED PROJECT WOULD OCCUR WITHIN AN URBANIZED SITE THAT IS CURRENTLY SERVED BY EXISTING SANITATION INFRASTRUCTURE. THE PROPOSED PROJECT WOULD NOT INCLUDE SEPTIC SYSTEMS OR ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS. NO IMPACT WOULD OCCUR.

Construction and Operation

The proposed project would occur in an urbanized area where existing wastewater infrastructure already exists. The proposed project would include a restroom as part of the public plaza, but the restroom would not include or require the use of septic tanks or alternative wastewater disposal systems as it would connect to the existing sewer system. Therefore, no construction or operational impacts related to soil capability of supporting alternative wastewater disposal systems would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

Effects on Unique Paleontological Resources or Geologic Features

Significance Criterion f:	Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact GEO-7 CONSTRUCTION ACTIVITIES SUCH AS DREDGING HAVE THE POTENTIAL TO IMPACT PALEONTOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction

As described in Section 3.6.2, *Environmental Setting,* the site is primarily comprised of artificial fill. Artificial fill cannot preserve scientifically significant paleontological resources and has no paleontological sensitivity.

All landside and land-water interface improvements would only affect artificial fill sediments, which have no paleontological sensitivity. Therefore, there is no paleontological sensitivity for landside portions of the Project site. However, there is uncertainty regarding the paleontological sensitivity for the waterside portions of the project site.

As described in Section 3.6.2, *Environmental Setting* (*Paleontological Resources* subsection), paleontological resources were discovered during the construction of the Berkeley Municipal Wharf. Savage[71] stated that a mammoth (*Mammuthus columbi*) was discovered during dredging operations within 'sands and clays' near the wharf, though the precise location where the fossil originated from is unknown. The potential for dredging to produce a paleontological resource discovery is directly proportional to the amount and depth of dredging that occurs and whether it occurs in previously disturbed (i.e., previously dredged) sediments. Dredging would occur within a former U.S. Army Corps of Engineers channel, which was previously dredged. Dredging activities could occur in some areas previously disturbed by construction equipment; however, dredging could also occur in undisturbed areas. Dredging activities that disturb surface or subsurface geologic formations could result in the destruction, damage, or loss of scientifically important paleontological resources or unique geologic features. Therefore, construction impacts related to unique paleontological resource or geologic feature effects would be potentially significant.

However, Mitigation Measures GEO-1 and GEO-2 require construction personnel to be trained to identify paleontological resources and comply with the procedures in the event paleontological resources are discovered. Implementation of these mitigation measures would reduce impacts to less than significant because they would ensure procedures are in place to avoid destruction of paleontological resources. Therefore, construction impacts related to unique paleontological resource or geologic feature effects would be less than significant with mitigation.

Operation

Impacts with the potential to cause substantial adverse changes in the significance of a unique paleontological resource or unique geologic feature are limited to ground-disturbing activities, none of which would occur during operation. Therefore, no operational impact related to unique paleontological resource or geologic feature effects would occur.

Mitigation Measures

MITIGATION MEASURE GEO-1: IMPLEMENT PALEONTOLOGICAL WORKER ENVIRONMENTAL AWARENESS PROGRAM DURING CONSTRUCTION

Prior to the start of construction, a Qualified Professional Paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology standards, or his or her designee shall conduct a paleontological Worker Environmental Awareness Program training for all construction personnel participating in subsurface dredging regarding unanticipated discoveries and the procedures for notifying paleontological staff should fossils be discovered by construction staff. A training acknowledgment form shall be signed by all workers who receive the training, and a copy of the signed training acknowledgement form shall be retained by the project contractor and provided to the City.

MITIGATION MEASURE GEO-2: STOP WORK UPON UNANTICIPATED DISCOVERY OF PALEONTOLOGICAL RESOURCES AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

The City shall require the following mitigation measure for dredging activities. If a potential fossil is discovered during dredging, construction activity within 50 feet of the find shall cease until the discovery is examined by a Qualified Professional Paleontologist as defined by the Society of

[71] Savage, D.E. 1951. Late Cenozoic Vertebrates of the San Francisco Bay Region. University of California Publications Bulletin of the Department of Geological Sciences. Volume 28(10), pp. 215-314.

Vertebrate Paleontology.[72] If the find is determined to be scientifically significant, the Qualified Professional Paleontologist shall direct all mitigation measures related to paleontological resources consistent with the SVP (2010) standards, which shall include fossil salvage, laboratory preparation, curation in a paleontological repository, and a paleontological monitoring report. Additionally, the Qualified Professional Paleontologist and City shall decide if full- or part-time monitoring shall be instated for further project-related dredging. A Qualified Professional Paleontologist, is defined by the SVP (2010) as an individual with:

- A graduate degree in paleontology or geology, and/or a publication record in peer reviewed journals; and demonstrated competence in field techniques, preparation, identification, curation, and reporting in the state or geologic province in which the project occurs. An advanced degree is less important than demonstrated competence and regional experience.
- At least two full years professional experience as assistant to a Project Paleontologist with administration and project management experience; supported by a list of projects and referral contacts.
- Proficiency in recognizing fossils in the field and determining their significance.
- Expertise in local geology, stratigraphy, and biostratigraphy.
- Experience collecting vertebrate fossils in the field.

Level of Significance

Less Than Significant with Mitigation

3.5.5 Cumulative Impacts

The geographic scope of cumulative impacts related to geology, soils, and seismicity is limited to areas within and adjacent to the project site. Geologic and soils-related impacts are generally site-specific and depend on local geologic and soil conditions. For paleontological resources, the significance of potential finds is considered within and adjacent to the project site.

The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1, *Cumulative Projects List*, in conjunction with the proposed project (refer to Chapter 3, *Environmental Impact Analysis*).

Since the project results in no impacts related to the risk of loss, injury or death involving fault rupture, subsidence, collapse, or landsides; or having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems; the project would not contribute to these cumulative impacts.

Seismic-related Hazards

Cumulative projects, including the proposed project, have the potential to experience strong to violent ground shaking from earthquakes. Cumulative projects listed in Table 3-1 would be exposed to the similar ground shaking hazards. All cumulative projects would adhere to the provisions of the California Building Code, and policies of the Berkeley General Plan and Berkeley Municipal Code and surrounding city general plans and municipal codes, reducing potential hazards associated with seismic ground shaking and ground failure. Specifically, all applicable cumulative projects in Berkeley would be required to prepare a Geotechnical Report, consistent with Policy S-14 in the

[72] Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.

Berkeley General Plan. Given that all cumulative projects would be required to adhere to existing regulations that address seismic-related hazards, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to seismic-related hazards.

Soil-related Hazards

Significant cumulative impacts related to soils could occur if the incremental impacts of the proposed project combined with the incremental impacts of one or more of the cumulative projects identified in Table 3-1, substantially increases risks that people or the environment would be exposed to geologic hazards. Cumulative projects in Table 3-1, in particular the maximum development potential in the Draft Waterfront Specific Plan, could also result in erosion impacts during construction, as well as potential hazards related to locating development on expansive soils.

The Construction General Permit would require each cumulative project to prepare and implement a SWPPP (if over one acre in size) or water pollution control plan for projects that disturb less than one acre of land. The SWPPPs and water pollution control plans would describe BMPs to control runoff and prevent erosion for each project. Through compliance with this requirement, the potential for erosion impacts would be reduced. The Construction General Permit has also been developed to address cumulative conditions arising from construction throughout the State and is intended to maintain cumulative effects of projects subject to this requirement below levels that would be considered significant. For example, two adjacent construction sites would be required to implement BMPs to reduce and control the release of sediment and/or other pollutants in any runoff leaving their respective sites. The runoff water from both sites would be required to achieve the same action levels, measured as a maximum amount of sediment or pollutant allowed per unit volume of runoff water. Thus, even if the runoff waters were to combine after leaving the sites, the sediments and/or pollutants in the combined runoff would still be at concentrations (amount of sediment or pollutants per volume of runoff water) below action levels and would not result in a significant cumulative impact.

Furthermore, the proposed project would be subject to all Berkeley General Plan policies, municipal code requirements, and the CBC reducing soil-related hazard impacts. Other current and future development projects in the surrounding area would similarly be required to adhere to standards and practices that include stringent geologic and soil-related hazard mitigations, including preparing Geotechnical Reports. In Berkeley, this is required by Policy S-14 in the Berkeley General Plan. Thus, because existing regulations would address soil-related hazards for cumulative projects, cumulative impacts would be less than significant.

Cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to soil-related hazards, including erosion and locating projects on expansive soils.

Unique Geological Feature and Paleontological Resources

Fossil discoveries resulting from excavation and earthmoving activities associated with development are occurring with increasing frequency throughout California. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions, such as part of a research project. The heritage contained in each fossil represents a non-renewable resource. If an organism has a fossil record (i.e., is preserved), that record is represented by a finite

number of specimens. That number decreases with every specimen destroyed by weathering, erosion, of human actions.

Geologic units within the waterside of project site have the potential to yield paleontological resources. Because there are also cumulative projects that could occur within the water (i.e., Berkeley Marina Dredging Project and South Cove Sailing Basin Dredging Study), there is the potential that the dredging associated with the project and the dredging associated with cumulative projects could result in a potentially significant cumulative impact. However, the proposed project would include mitigation (Mitigation Measures GEO-1 and GEO-2) to reduce impacts on paleontological resources. In addition, the project's contribution to a cumulative impact would be minimized, given that dredging will occur in an area where dredging has already occurred. Given that the project would impact an area where dredging has already occurred, and that it would include mitigation that would require fossil salvage, laboratory preparation, curation in a paleontological repository, and a paleontological monitoring reporting, if a paleontological resource is found; the project's contribution to a cumulative impact would be less than considerable.

Overall Level of Cumulative Significance

Less Than Significant with Mitigation

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3.6 Greenhouse Gas Emissions and Energy

3.6.1 Introduction

This section describes existing greenhouse gas (GHG) emissions and sources and energy use Statewide, regionally, and within the City of Berkeley as well as the relevant regulatory framework. This section also analyzes potential impacts related to greenhouse gas (GHG) emissions and energy use from implementation of the proposed project. Information included in this section is based on information from the Bay Area Air District and the GHG modeling outputs included in Appendix B to this EIR.

3.6.2 Environmental Setting

Greenhouse Gas Emissions

Greenhouse Effect, Global Warming, and Climate Change

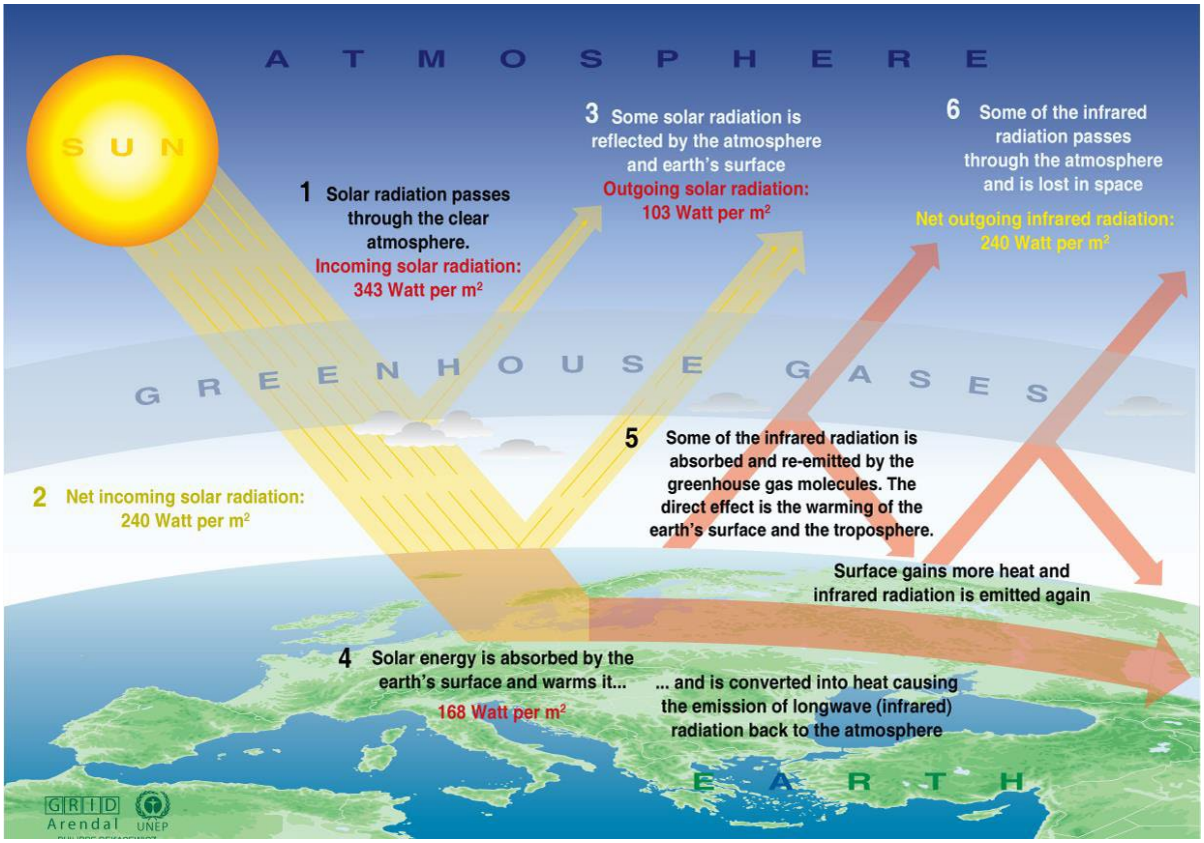
Most of the energy that affects the Earth's climate comes from the sun. Some solar radiation is absorbed by the Earth's surface, and a smaller portion of this radiation is reflected by the atmosphere back toward space. As the Earth absorbs high frequency solar radiation, its surface gains heat and then re-radiates lower frequency infrared radiation back into the atmosphere.

Most solar radiation passes through gases in the atmosphere classified as GHGs; however, infrared radiation is selectively absorbed by GHGs. GHGs in the atmosphere play a critical role in maintaining the balance between the Earth's absorbed and radiated energy, the Earth's radiation budget, by trapping some of the infrared radiation emitted from the Earth's surface that otherwise would have escaped to space (see Figure 3.6-1). Radiative forcing is the difference between the incoming energy and outgoing energy. Specifically, GHGs affect the radiative forcing of the atmosphere, which in turn affects the Earth's average surface temperature. This phenomenon, the greenhouse effect, keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows successful habitation by humans and other forms of life.

Combustion of fossil fuels and deforestation release carbon into the atmosphere that historically has been stored underground in sediments or in surface vegetation, thereby exchanging carbon from the geosphere and biosphere to the atmosphere in the carbon cycle. With the accelerated increase in fossil fuel combustion and deforestation since the Industrial Revolution of the 19th century, concentrations of GHGs in the atmosphere have increased exponentially. Such emissions of GHGs in excess of natural ambient concentrations contribute to the enhancement of the natural greenhouse effect. This enhanced greenhouse effect has contributed to global warming, an increased rate of warming of the Earth's average surface temperature. Specifically, increases in GHGs lead to increased absorption of infrared radiation by the Earth's atmosphere and warm the lower atmosphere further, thereby increasing temperatures and evaporation rates near the surface.

Variations in natural phenomena such as volcanoes and solar activity produced most of the global temperature increase that occurred during preindustrial times. More recently, however, increasing atmospheric GHG concentrations resulting from human activity have been responsible for most of the observed global temperature increase.

Figure 3.6-1 The Greenhouse Gas Effect



Source: United Nations Environmental Program/GRID-Arendal. 2005. Greenhouse Effect. <https://www.grida.no/resources/6467>.

Warming affects global atmospheric circulation and temperatures; oceanic circulation and temperatures; wind and weather patterns; average sea level; ocean acidification; chemical reaction rates; precipitation rates, timing, and form; snowmelt timing and runoff flow; water supply; wildfire risks; and other phenomena, in ways collectively referred to as climate change. Climate change is the alteration in the average weather of the Earth that is measured by modifications in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical data on temperature changes, such as during previous ice ages as well as from the last 150 years (the Industrial Age).

TEMPERATURE PREDICTIONS

The United Nations Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Sixth Assessment Report, the IPCC predicted that the global mean temperature change by 2100 could range from 1.4 degrees Celsius (°C) to 4.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios. The report states that "Human activities, principally through emissions of greenhouse gases, have

unequivocally caused global warming, with global surface temperatures reaching 1.1°C above 1850-1900 between 2011 and 2020."[1]

GREENHOUSE GASES AND GLOBAL EMISSION SOURCES

Gases that trap heat in the atmosphere are referred to as GHGs. Prominent GHGs that naturally occur in the Earth's atmosphere are water vapor, carbon dioxide (CO_2), methane (CH_4), oxides of nitrogen (NO_x), and ozone. Anthropogenic (human-caused) GHG emissions include releases of these GHGs plus release of gases with high global warming potential (GWP) (ozone-depleting substances such as chlorofluorocarbons [CFCs]) and aerosols, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The GHGs listed by the IPCC (CO_2, CH_4, nitrous oxide (N_2O), HFCs, PFCs, and SF_6) are discussed below, sorted by quantity in the atmosphere. Water vapor, despite being the most plentiful GHG, is not discussed below, because natural concentrations and fluctuations far outweigh anthropogenic influences, making it impossible to predict. Ozone is not included, because it does not directly affect radiative forcing. Ozone-depleting substances (CFCs, halons, carbon tetrachloride, methyl chloroform, and hydrochlorofluorocarbons) are not included, because their general use has been replaced by HFCs and PFCs.

The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere and is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2. Individual GHG compounds have varying potential for contributing to global warming. For example, CH_4 is 25 times as potent as CO_2, while SF_6 is 22,200 times more potent than CO_2 on a molecule-per-molecule basis. To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method for comparing GHG emissions is the GWP methodology defined in the IPCC reference documents.[2] The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO_2e), which compares the gas in question to that of the same mass of CO2 (by definition, CO_2 has a GWP of 1). The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. Thus, to describe how much global warming a given type and amount of GHG may cause, the CO_2e is used. A CO_2e is the mass emissions of an individual GHG multiplied by its global warming potential. Therefore, a high GWP represents high absorption of infrared radiation and a long atmospheric lifetime compared to CO_2. A time horizon is also needed to convert GHG emissions to equivalent CO_2 emissions to account for chemical reactivity and lifetime differences among various GHG species. The standard time horizon for climate change analysis is 100 years. Generally, GHG emissions are quantified in terms of metric tons (MT) CO_2e emitted per year.

The atmospheric residence time of a gas is equal to the total atmospheric quantity of the gas divided by its rate of removal. The atmospheric residence time of a gas is, in effect, a half-life measurement of the length of time a gas is expected to persist in the atmosphere when accounting for removal mechanisms such as chemical transformation and deposition. Table 3.6-1 lists the GWP of each GHG and its lifetime. Units commonly used to describe the concentration of GHGs in the atmosphere are parts per million (ppm), parts per billion (ppb), and parts per trillion (ppt), referring to the number of molecules of the GHG in a sampling of 1 million, 1 billion, or 1 trillion molecules of

[1] IPCC. 2023. Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: Available: 10.59327/IPCC/AR6-9789291691647.001 https://www.ipcc.ch/report/ar6/syr/ (accessed January 2025).
[2] IPCC. 2014. Frequently Asked Questions. Available: https://www.ipcc-nggip.iges.or.jp/faq/FAQ.pdf (accessed August 2025).

air. Collectively, HFCs, PFCs, and SF_6 are referred to as high-GWP gases. CO_2 is by far the largest component of worldwide CO_2e emissions, followed by CH_4, N_2O, and high-GWP gases, in order of decreasing contribution to CO_2e.

The primary human processes that release GHGs include the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release CH_4, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high-GWP gases. Deforestation and land cover conversion have also been identified as contributing to global warming by reducing the Earth's capacity to remove CO_2 from the air and altering the Earth's albedo (surface reflectance), thus allowing more solar radiation to be absorbed. Specifically, CO_2 emissions associated with fossil fuel combustion are the primary contributors to human-induced climate change. CO_2, CH_4, and N_2O emissions associated with human activities are the next largest contributors to climate change. GHGs of concern in California are defined by California Assembly Bill (AB) 32 (see the Regulatory Environment subsection below for a description) and include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. A seventh GHG, nitrogen trifluoride (NF_3), was also added under the California Health and Safety Code Section 38505(g)(7) as a GHG of concern. These GHGs are described in terms of their physical description and properties, global warming potential, atmospheric residence lifetime, sources, and atmospheric concentration in 2005 in Table 3.6-1.

Global Climate Change

EXTENT

Climate change is a global problem, because GHGs are global pollutants, unlike criteria air pollutants (i.e., common air pollutants with USEPA-set standards) and toxic air contaminants (i.e., hazardous air pollutants known to cause serious health effects like cancer) that are pollutants of regional and local concern. Pollutants with localized air quality effects have relatively short atmospheric lifetimes of approximately one day; by contrast, GHGs have long atmospheric lifetimes that can range from several years to several thousand years. GHGs persist in the atmosphere for enough time to be dispersed around the globe.

Although the exact lifetime of particular GHG molecules depends on multiple variables and cannot be pinpointed, more CO_2 is currently emitted into the atmosphere than is sequestered. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through photosynthesis and dissolution, respectively. These are two of the most common processes of CO_2 sequestration.

Similarly, effects of GHGs are borne globally, as opposed to the localized air quality effects of criteria air pollutants and hazardous air pollutants. The quantity of GHGs that results in climate change is not precisely known and cannot be quantified, and no single plan or project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global or local climates. However, any emissions of GHGs have the potential to adversely affect the environment, because such emissions contribute, on a cumulative basis, to global climate change.

Table 3.6-1 Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO_2)	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes.
Methane (CH_4)	Flammable gas and is the main component of natural gas.	25	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter.
Nitrous oxide (N_2O)	N_2O (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes.
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants aerosol propellants; cleaning solvents.
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140-11,700	1–50,000	Automobile air conditioners; refrigerants.
Per- fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500-9,200	.0,000–50,000	Primary aluminum production; semiconductor manufacturing.
Sulfur hexafluoride (SF_6)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas.
Nitrogen trifluoride (NF_3)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays.

Sources:

IPCC. 2007. AR4 Climate Change 2007: The Physical Science Basis. Available: https://www.ipcc.ch/report/ar4/wg1/ (accessed September 2025).

IPCC. 2007. AR4 Climate Change 2007: Synthesis Report. Available: https://www.ipcc.ch/report/ar4/syr/ (accessed September 2025).

TRENDS AND EFFECTS

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than was observed during the 20th century. Long-term trends found that each of the past four decades was warmer than all the previous decades in the instrumental record. The observed global mean surface temperature for the decade from 2006 to 2015 was 0.87°C higher than the global mean surface temperature over the period from 1850 to 1900. Several independently analyzed data records of global and regional Land-Surface Air Temperature obtained from station observations agree that Land-Surface Air Temperature and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades.[3,4]

According to California's Fourth Climate Change Assessment, Statewide temperatures from 1986 to 2016 were approximately 1°F to 2°F higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include loss in water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years. While there is growing scientific consensus about the possible effects of climate change at a global and Statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy.[5]

In California, climate change may result in consequences such as the following:

- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the forests, grasslands and chaparral ecosystems of Southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.

[3] IPCC. 2014. Summary for Policymakers. In: AR5 Climate Change 2014, Mitigation of Climate Change. Available: https://www.ipcc.ch/report/ar5/wg3/ (accessed August 2025).
[4] IPCC. 2018. Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report. Available: https://www.ipcc.ch/sr15/ (accessed August 2025).
[5] California, State of. 2018. California Fourth Climate Change Assessment Statewide Summary Report. Available: http://www.climateassessment.ca.gov/state/ (accessed August 2022).

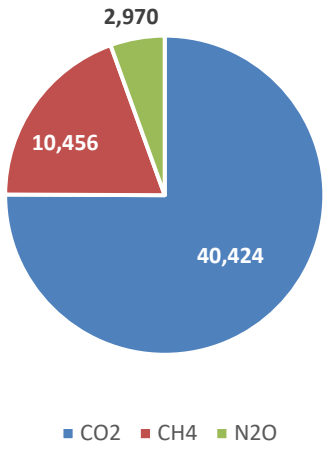
- **Rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **Damage to marine ecosystems and natural environment.** Climate change can cause damage to marine ecosystems, including acidification of the oceans due to increased CO_2 levels (including coral bleaching).
- **Reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced nuisance insect population, and establishment of non-native species.

Existing GHG Emissions

GLOBAL

Worldwide anthropogenic GHG emissions totaled 53,851 million metric tons (MMT) of CO_2e in 2022, which is a 171 percent increase from 1990 GHG levels.[6] Specifically, 40,424 MMT of CO_2e of CO_2, 10,456 MMT of CO_2e of CH_4, 2,970 MMT of CO_2e of N_2O. Worldwide per capita emissions have increased from 5.2 tons per person in 1990 to 6.8 tons per person in 2022 an increase of 29 percent.[7] Figure 3.6-2 shows the Global Emissions Inventory by greenhouse gas.

Figure 3.6-2 Global Emissions Inventory by GHG



[6] Our World in Data. 2023. Greenhouse Gas Emissions. Available: https://ourworldindata.org/greenhouse-gas-emissions (accessed September 2024).
[7] Our World in Data. 2023. Greenhouse Gas Emissions. Available: https://ourworldindata.org/greenhouse-gas-emissions (accessed September 2024).

UNITED STATES

Net total U.S. GHG emissions were 5,489 MMT of CO_2e in 2022. Emissions increased by 1 percent between 2021 and 2022; however, total emissions in 2022 are 17 percent below 2005 levels. In 2022, transportation accounted for approximately 28 percent of U.S. emissions, electric power 25 percent, industry 23 percent, residential and commercial 13 percent, and agriculture approximately 10 percent. Figure 3.6-3 shows the 2022 United States GHG emissions inventory based on economic sector.[8] Figure 3.6-4 shows the GHG emissions in the United States by greenhouse gas type.

Figure 3.6-3 2022 U.S. GHG Emissions Inventory by Economic Sector

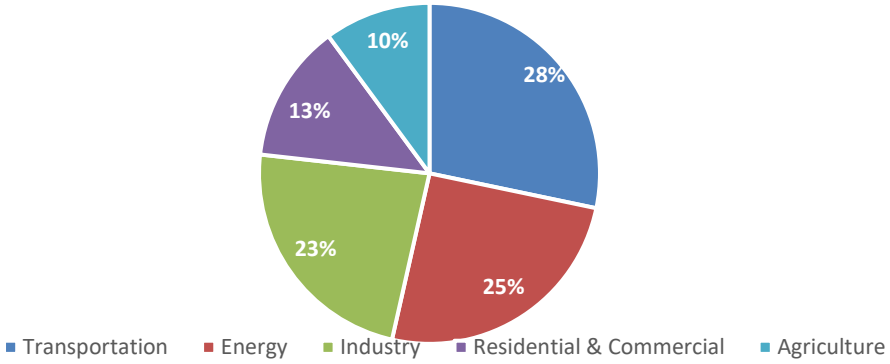
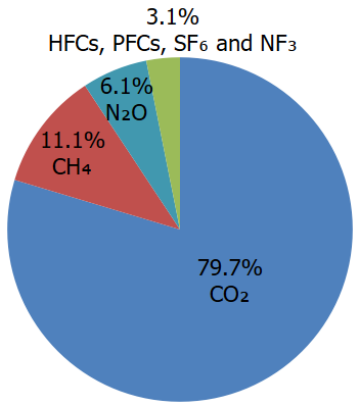


Figure 3.6-4 2022 U.S. GHG Emissions by Gas



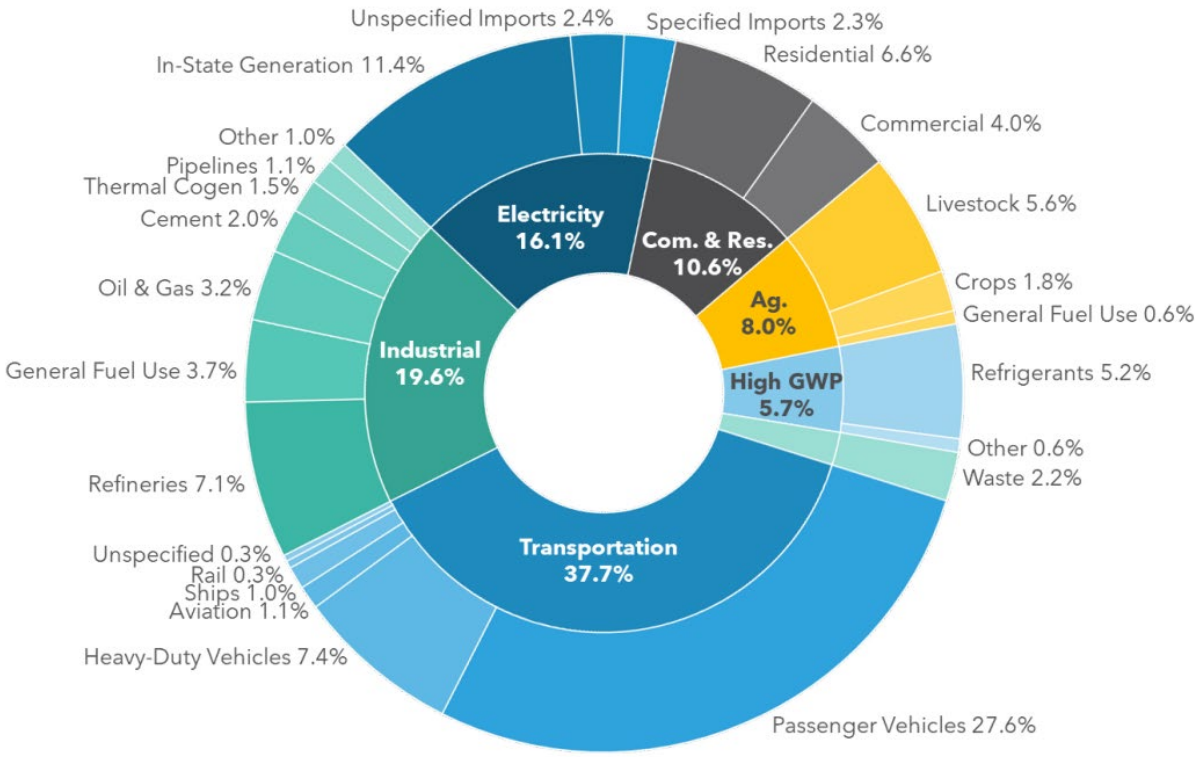
Source: USEPA 2025. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022.

[8] USEPA 2025. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. Available: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks (accessed January 2025).

CALIFORNIA

Based on the CARB California Greenhouse Gas Inventory for 2000-2022, California produced 371.1 MMT of CO_2e in 2022, which is 107 MMT of CO_2e (22.3 percent) lower than 2005 levels. The major source of GHG emissions in California is the transportation sector, which comprises 38 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 20 percent of the state's GHG emissions, while electric power accounts for approximately 16 percent, residential/commercial and agriculture both account for 11 and 8 percent, respectively.[9] The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, its relatively mild climate is a factor that reduces California's per capita fuel use and GHG emissions as compared to other states. In 2016, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels, as emissions fell below 431 MMT of CO_2e.[10] Figure 3.6-5 shows the California GHG Emissions Inventory by economic sector.

Figure 3.6-5 2022 California GHG Emissions by Scoping Plan Sectors and Sub-Sectors



Note: This figure breaks out 2022 California emissions by sector into an additional level of sub-sector categories. The inner ring shows the broad CARB Climate Change Scoping Plan sectors. The outer ring breaks out the sectors into sub-sectors or emission categories. The transportation sector represents tailpipe emissions from on-road vehicles and direct emissions from other off-road mobile sources; it does not include emissions from petroleum refineries and oil extraction and production, which are included in the industrial sector.

Source: CARB. 2024. California GHG Emissions for 2000 to 2022: Trends of Emissions and Other Indicators. https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf (accessed August 2025).

[9] California Air Resources Board. 2025. Current California GHG Emissions Inventory Data 2000-2023 GHG Inventory (2025 Edition). Available: https://ww2.arb.ca.gov/ghg-inventory-data (accessed January 2025).
[10] California Air Resources Board 2021. California Greenhouse Gas Emissions for 2000 to 2019 – Trends of Emissions and Other Indicators. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000_2019_ghg_inventory_trends_20220516.pdf (accessed September 2024).

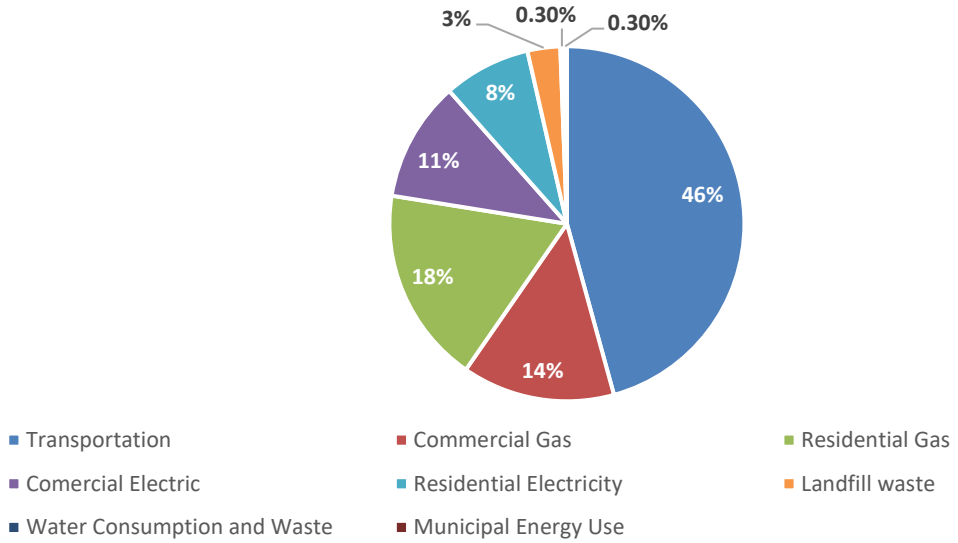
CITY OF BERKELEY

The City of Berkeley has long been a leader in climate action. In 2006, Berkeley residents voted to reduce the community's GHG emissions by 80 percent below 2000 levels by 2050, and the resulting CAP was adopted by the Berkeley City Council in 2009. In 2018, then-Governor Brown committed California to carbon neutrality by 2045, the Berkeley City Council resolved to become a "Fossil Fuel-Free City," and the Council declared a Climate Emergency, all steps to signal the urgency of these ambitious goals and the need to act on climate threats in an equitable manner. Additionally, in 2020, the Berkeley City Council established a 2030 GHG emission reduction target that reflects Berkeley's fair share of the 50 percent global reduction in CO_2e, committing to reduce emissions 60.5 percent from 2018 levels by 2030.[11]

According to the most recent Berkeley GHG emissions inventory for year 2020, the majority of communitywide emissions are from the transportation and building sectors. The building sector accounts for 51 percent (253,465 $MTCO_2e$) of communitywide emissions and is broken down into residential gas (18 percent), commercial gas (14 percent), commercial electric (11 percent), and residential electricity (8 percent). Transportation sector accounts for 46 percent (232,009 $MTCO_2e$) of emissions, landfill waste accounted for 3 percent, water consumption and waste 0.3 percent and municipal energy use of 0.3 percent.[12]

Part of Berkeley's commitment to doing their part to reduce GHG emissions is to provide an annual update to track progress in reducing emissions. As of the most current data (2023 data), Berkeley has reduced overall GHG emissions by 41 percent over 2000 levels, despite a 16 percent overall growth in population.[13] GHG emissions have been reduced 12 percent between 2021 and 2023.

Figure 3.6-6 2020 Berkeley GHG Emissions Inventory by Sector and Fuel



[11] Berkeley, City of. 2022. Climate Action Plan and Resilience Update. November. Available: https://berkeleyca.gov/sites/default/files/documents/2022-11-29%20Item%2016%20Climate%20Action%20Plan.pdf (accessed October 2024).
[12] Berkeley, City of. 2022. Climate Action Plan and Resilience Update. November. Available: https://berkeleyca.gov/sites/default/files/documents/2022-11-29%20Item%2016%20Climate%20Action%20Plan.pdf (accessed October 2024).
[13] Berkeley, City of. 2025. Climate Action Plan and Resilience Update. Available: https://berkeleyca.gov/sites/default/files/documents/2025-04-15%20Item%2023%20Climate%20Action%20Plan%20and%20Resilience%20Update.pdf (accessed January 2026).

Energy

Energy Fundamentals

Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW) or megawatts (MW), or natural gas measured in British thermal units (BTU), cubic feet, or therms. Fuel, such as gasoline or diesel, is measured in gallons or liters.

ELECTRICITY

Electricity is used primarily for lighting, appliances, cooking purposes, HVAC equipment, and other uses associated with building and vehicle operations. Electricity sources range from renewable (hydroelectric, solar, wind, geothermal, biomass) to nonrenewable (natural gas, oil, nuclear, coal).

NATURAL GAS

Natural gas is used primarily for heating, water heating, and cooking purposes and is typically associated with building operations.

FUEL

Fuel is used primarily for powering off-road equipment and vehicles (commercial trucks and other vehicles). The typical fuel types used are diesel and gasoline.

Electricity Generation, Distribution and Storage

CALIFORNIA

According to the California Energy Commission (CEC), California generated approximately 281,140 gigawatt-hours (GWh) of electricity in 2023. As shown in Table 3.6-2, approximately 36.6 percent of this electricity was sourced from natural gas, 57.9 percent from renewable sources, 9.3 percent from nuclear, 11.7 percent from large hydroelectric sources, and the remaining 6 percent was sourced from coal, oil, other and unspecified sources. Specifically, the 57.9 percent of California's 2023 retail electric sales that were served by renewable resources included sources from wind, solar, geothermal, biomass, and small hydroelectric.[14]

[14] CEC. 2023. California 2023 Total System Electric Generation. Available: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2023-total-system-electric-generation (accessed February 2026)

Table 3.6-2 California 2023 Total System Electric Generation

Fuel Type	In-State Generation (GWh)	Percent of In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	State Energy Mix (GWh)	State Power Mix
Coal	257	0.1%	163	4,561	4,981	1.8%
Large Hydro	27,066	12.6%	4,712	1,109	32,886	11.7%
Natural Gas	94,192	43.7%	52	8,530	102,774	36.6%
Nuclear	17,714	8.2%	196	8,361	26,272	9.3%
Oil	36	0.0%	0	0	36	0.0%
Other (Petroleum/ Waste Heat)	206	0.1%	0	0	206	0.1%
Renewables	120,932	56.1%	15,609	26,229	162,771	57.9%
Biomass	5,037	2.3%	753	–	5,790	2.1%
Geothermal	10,999	5.1%	221	2,347	13,567	4.8%
Small Hydro	4,853	2.3%	133	2	4,988	1.8%
Solar	41,344	19.2%	417	6,108	47,869	17.0%
Wind	13,920	6.5%	9,177	8,302	31,399	11.2%
Unspecified	0	0.0%	100	10,273	10,373	3.7%
Total	**215,623**	**100.0%**	**15,925**	**49,593**	**281,140**	**100.0%**

GWh = gigawatt-hours

Source: CEC. 2023. California 2023 Total System Electric Generation. Available: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2023-total-system-electric-generation (accessed February 2026)

Electricity is distributed through the various electric load-serving entities (LSEs) in California. These entities include investor-owned utilities, publicly owned LSEs, rural electric cooperatives, community choice aggregators, and electric service providers.[15]

Alameda County and Berkeley

Alameda County as a whole consumed approximately 11,314 GWh of electricity in 2023 from residential and non-residential uses.[16] The electricity provider for the City of Berkeley is the Pacific Gas and Electric Company (PG&E) and Ava Community Energy.

PG&E's 2023 default power mix offered 32.8 percent from renewable sources, and they offered customers options for 65.5 percent or 100 percent renewable power mixes.[17] In conjunction with the utility companies, the California Public Utilities Commission (CPUC) is involved in energy conservation programs.

Ava Community Energy is the default electricity generation provider in its service area. Ava Community Energy builds and buys from clean power plants to offer residential and commercial customers a choice between power sources.[18] As of 2023, the Ava basic plan, Bright Choice, was 54.6 percent renewable, relying on a mix of biomass and biowaste (13 percent), geothermal (2.2

[15] CEC. 2021. Electric Load-Serving Entities (LSEs) in California. Available: https://www.energy.ca.gov/almanac/electricity_data/utilities.html (accessed August 2025).
[16] CEC. 20225. Electricity Consumption. Available: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/california-energy-consumption-dashboards-0 (accessed August 2025).
[17] PG&E. 2025. 2023 Power Content Label Pacific Gas and Electric Company. Available: https://www.pge.com/assets/pge/docs/account/billing-and-assistance/bill-inserts/1224-power-content-label.pdf (accessed August 2025).
[18] Ava Community Energy. 2025. "What We Do." Available: https://avaenergy.org/what-we-do/ (accessed July 2025).

percent), eligible hydroelectric (2.5 percent), solar electric (5.6 percent) and wind (31.3 percent). Its nonrenewable sources include large hydroelectric (34.1 percent), "other" (11.4 percent), and unspecified sources of power (28.4 percent), which refers to electricity that is not traceable to a specific generating facility and typically includes a mix of all resource types that may include renewables.[19] Ava Community Energy is committed to supplying 100 percent of energy from renewable resources by 2030.[20]

In addition to Bright Choice, Ava Community Energy offers Renewable 100, a plan that is 100 percent powered by wind and solar.[21] Berkeley's residential, municipal, and commercial accounts are automatically enrolled in Renewable 100.

Natural Gas Distribution

CALIFORNIA

According to the California Public Utility Commission (CPUC), natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora.[22] Because natural gas is a dispatchable energy resource that provides load when the availability of hydroelectric power generation and/or other energy sources decrease, distribution varies greatly from year to year. The availability and distribution of hydroelectric-sourced energy, increasing renewable-source energy, and overall consumer demand are the variables that shape the need for natural gas.

ALAMEDA COUNTY AND BERKELEY

Alameda County as a whole consumed approximately 397 million therms of natural gas in 2023 in both residential and non-residential uses.[23] PG&E is the natural gas provider for the City. The nearest PG&E gas transportation pipelines run along Virginia Street and 7th Street.[24]

Fuel Distribution

CALIFORNIA

California consists of distributors of gasoline, which include companies or individuals who make the first distribution of gasoline in California. Aircraft manufacturers and certificated or licensed carriers by air may be included within the definition of distributor.

Based on the California Transportation of Petroleum Second Northern California Refinery Safety Forum, output from the refineries is usually placed in intermediate tanks before blending finished

[19] PG&E. 2023. PG&E and Ava Community Energy Comparison. Available: https://www.pge.com/assets/pge/docs/account/alternate-energy-providers/Ava_PowerGenerationMix.pdf (accessed July 2025).
[20] Ava Community Energy. 2022. Standard LSE Plan. Available: https://res.cloudinary.com/diactiwk7/image/upload/v1667342459/2022_IRP_EBCE_LSE_Plan_xj6yzo.pdf (accessed February 2026).
[21] Ava Community Energy. 2025. Berkeley. Available: https://avaenergy.org/community/who-we-serve/berkeley/ (accessed January 2026).
[22] CPUC. 2025. Natural Gas and California. Available: https://www.cpuc.ca.gov/natural_gas/ (accessed August 2025).
[23] CEC. 2025. Gas Consumption by County. Available: http://www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed August 2025).
[24] PG&E. 2025. Explore our natural gas transmission pipeline map. Available: https://www.pge.com/en/about/pge-systems/gas-systems.html#tabs-fc6b80548f-item-727cbee02b-tab (accessed August 2025).

products. Most gasoline is shipped from refinery by pipeline, which serves over 60 distribution terminals, which is then transported to retail and nonretail stations by tanker trucks.[25]

BERKELEY

As of 2018, there were approximately 15 gasoline fueling stations within the City.[26]

Available Alternative Vehicle Fuels

Various Statewide regulations and plans encourage alternative fuel use to reduce GHG emissions and criteria pollutant emissions. These include the Low Carbon Fuel Standard and SB 32, as well as myriad other Statewide and local air district regulations. Conventional gasoline and diesel may be replaced with different alternative fuels, depending on the capability of the vehicle. Descriptions of the most widely used alternative fuels include the following:

- **Electricity** can power electric and plug-in hybrid electric vehicles directly from the power grid. Generally, these vehicles draw from the electricity grid and store the energy in their batteries. There are 121 electric vehicle charging stations throughout the City.[27]
- **Biodiesel** is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant grease. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Generally, biodiesel can run in any diesel engine without alterations, but fueling stations have been slow to make it available. There are 45 biodiesel refueling stations in California, with one in the City of Berkeley.[28]
- **Compressed natural gas (CNG) and liquefied natural gas (LNG)** is currently being used in vehicles. CNG is used in light-, medium-, and heavy-duty vehicles and gets about the same fuel economy. LNG is costly to produce and therefore is used in limited applications, typically in medium- and heavy-duty vehicles. There is one CNG station in the City of Berkeley and the nearest LNG station is in the City of Lathrop.[29]
- **Hydrogen** is being explored for use in combustion engines and fuel cell electric vehicles. The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential for domestic production, and the fuel cell vehicle's potential for high efficiency: hydrogen is two to three times more efficient than gasoline. The closest station to Berkeley is in the City of Oakland.[30]

[25] Schremp. 2015. California Transportation of Petroleum: Second Northern California Refinery Safety Forum. Available: https://calepa.ca.gov/wp-content/uploads/2016/10/Refinery-Documents-2015yr-Petroleum.pdf (accessed August 2025).
[26] Berkeley, City of. 2022. Gas Station Ban and EV Charging Expansion. Available: https://berkeleyca.gov/sites/default/files/documents/2022-06-22_ECC_Item%209_Gas%20Station%20Ban%20and%20EV%20Charging%20Expansion.pdf (accessed August 2025).
[27] PlugShare. 2025. Plugshare. Available: https://www.plugshare.com/directory/us/california/berkeley (accessed August 2025).
[28] USDOE. 2025. Biodiesel Fueling Station Locations. Available: https://afdc.energy.gov/fuels/biodiesel-locations#/find/nearest?fuel=BD (accessed August 2025).
[29] USDOE. 2025. Natural Gas Fueling Station Locations. Available: https://afdc.energy.gov/fuels/natural-gas-locations#/find/nearest?fuel=CNG (accessed August 2025).
[30] USDOE. 2025. Hydrogen Fueling Station Locations. Available: https://afdc.energy.gov/fuels/hydrogen-locations#/find/nearest?fuel=HY (accessed August 2025).

Existing Energy Use

CALIFORNIA

According to the U.S. Energy Information Administration (USEIA), total electricity direct consumption within California in 2018 was 12,859.245 GWh, up 0.5 percent, or 64.385 GWh, from 2017. California electricity consumption in 2018 represented approximately 9 percent of total U.S. electricity consumption in 2018.[31]

In 2018, total California natural gas demand for industrial, residential, commercial, and electric power generation was 2,137,920 million cubic feet per year (MCF/year).

The main category of fuel use in California is transportation fuel, specifically gasoline and diesel. Gasoline is the most used transportation fuel in California: 97 percent of all gasoline sold in California is consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2023, U.S. finished motor gasoline consumption averaged about 8.94 million barrels per day or about 376 million gallons per day. The record-high level of finished motor gasoline consumption was about 392 million gallons per day in 2018.[32] Diesel is the second largest transportation fuel used in California. Many heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm, construction, and heavy-duty military vehicles and equipment have diesel engines.

According to the 2023 California Annual Retail Fuel Outlet Report Results (CEC-A15), in 2023, 2,316 million gallons of diesel annually (i.e., 6.3 million gallons of diesel per day), including off-road diesel, was sold.[33]

BERKELEY

As shown in Table 3.6-3, approximately 523 million gallons of transportation fuel were consumed in Alameda County in 2023, of which approximately 468 million gallons were gasoline and approximately 55 million gallons were diesel fuel.[34] This equates to approximately 1.4 million gallons of fuel per day or 0.86 gallons of fuel per person per day, based on a 2025 Countywide population of 1,662,482 people.[35]

The City of Berkeley consumed approximately 15.7 million gallons of gasoline in 2023.[36] This equates to approximately 0.04 million gallons (or 43,000 gallons) of gasoline per day or 0.33 gallons of fuel per person per day, based on a 2025 Citywide population of 128,348 people.[37]

The City of Berkeley has incorporated numerous energy saving policies in its Climate Action Plan. In 2023, approximately 11.4 percent of all vehicles registered in Berkeley were all-electric, plug-in

[31] USEIA. 2020. California Electricity Profile 2018. Available: https://www.eia.gov/electricity/state/archive/2018/california/ (accessed August 2025).
[32] USEIA. 2025. Frequently Asked Questions (FAQs). Available: https://www.eia.gov/tools/faqs/faq.php?id=23&t=10 (accessed August 2025).
[33] CEC. 2025. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. Available: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed August 2025).
[34] CEC. 2025. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. Available: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed August 2025).
[35] California Department of Finance. 2025. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2025 with 2020 Benchmark. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/. (accessed July 2025).
[36] CEC. 2025. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. Available: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed August 2025).
[37] CDF. 2025. E- E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2021-2025, with 2020 Benchmark. Available: https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/ (accessed August 2025).

hybrid, and fuel cell vehicles compared to 5.2 percent Statewide.[38] Furthermore, as of 2023, there were 129 publicly available EV charging ports in Berkeley and 75 EV charging ports installed by businesses and homes for their employes and residents. As of March 2025, the City's municipal fleet incorporates 578 vehicles, of which 74 (12.8 percent) are electric vehicles.

According to the CEC, one gallon of gasoline is equivalent to approximately 125,000 Btu, while one gallon of diesel is equivalent to approximately 138,700 Btu.[39] Based on this formula, approximately 175 billion Btu in transportation fuel were consumed per day in 2023 in Alameda County, while 5.2 billion Btu in gasoline was consumed per day in 2023 in the City (see Table 3.6-3).

Table 3.6-3 Transportation Energy Consumption in Alameda County and Berkeley

Fuel Type	2023 Annual Fuel Use (million gallons)	2023 Daily Fuel Use (million gallons)	2023Daily Energy Use (billions of Btu)	2023 Daily per Capita Energy Use (thousands of Btu)
Gasoline (County)	468	1.28	154.1	92.7
Diesel (County)	55	0.15	20.9	12.6
Total (County)	**523**	**1.4**	**175.0**	**105.3**
Gasoline (City)	15.7	0.04	5.2	40.3

Notes: Btu = British thermal units

Source: CEC. 2025. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed August 2025).

Bureau of Transportation Statistics. 2026. Energy Consumption by Mode of Transportation. Available: https://www.bts.gov/content/energy-consumption-mode-transportation#:~:text=Automotive%20gasoline%20=%20125%2C000%20Btu/gallon,fuel%20=%20138%2C700%20Btu/gallon. (accessed February 2026).

3.6.3 Regulatory Framework

Additional regulatory information related to GHG emissions generation are included throughout the other resource sections including Section 3.13, *Utilities and Service Systems*, which includes discussion of water use efficiency standards, solid waste standards, and wastewater standards, and Section 3.2, *Air Quality*, which includes discussion of air quality related regulations.

Federal Regulations

Clean Air Act (Regulation of GHGs)

The United States Environmental Protection Agency (USEPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the USEPA has not promulgated regulations on GHG emissions.

[38] Berkeley, City of. 2025. Climate Action Plan and Resilience Update. Available: https://berkeleyca.gov/sites/default/files/documents/2025-04-15%20Item%2023%20Climate%20Action%20Plan%20and%20Resilience%20Update.pdf (accessed January 2026).
[39] Bureau of Transportation Statistics. 2026. Energy Consumption by Mode of Transportation. Available: https://www.bts.gov/content/energy-consumption-mode-transportation#:~:text=Automotive%20gasoline%20=%20125%2C000%20Btu/gallon,fuel%20=%20138%2C700%20Btu/gallon. (accessed February 2026).

Construction Equipment Fuel Efficiency Standard

USEPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 hp and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles were to be completely phased in by the end of 2015.

U.S. Consolidated Appropriations Act (Mandatory GHG Reporting)

The Consolidated Appropriations Act, passed in December 2007, required the establishment of mandatory GHG reporting requirements. In September 2009, the USEPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S., and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the USEPA. The first annual reports for the largest emitting facilities, covering calendar year 2010, were submitted to USEPA in 2011.

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles (autos, pickups, vans, and sport-utility vehicles). The law placed responsibility on the National Highway Traffic and Safety Administration, a part of the U.S. Department of Transportation (USDOT), for establishing and regularly updating vehicle standards. The USEPA administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the program, the average fuel economy for new light-duty vehicles steadily increased from 13.1 miles per gallon (mpg) for the 1975 model year to 30.7 mpg for the 2014 model year and can increase to 54.5 by 2025.

On August 2, 2018, the NHTSA and USEPA, operating under the direction of the Trump Administration, proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE Rule). This rule addresses emissions and fuel economy standards for motor vehicles and is separated in two parts as described below.

- Part One, "One National Program" (84 FR 51310) revokes a waiver granted by USEPA to the State of California under Section 209 of the CAA to enforce more stringent emission standards for motor vehicles than those required by USEPA for the explicit purpose of GHG reduction, and indirectly, criteria air pollutants and ozone precursor emission reduction. This revocation became effective on November 26, 2019, potentially restricting the ability of CARB to enforce more stringent GHG emission standards for new vehicles and set zero emission vehicle mandates in California.
- Part Two addresses CAFE standards for passenger cars and light trucks for model years 2021 to 2026. This rulemaking proposes new CAFE standards for model years 2022 through 2026 and would amend existing CAFE standards for model year 2021. The proposal would retain the model year 2020 standards (specifically, the footprint target curves for passenger cars and light

trucks) through model year 2026. The proposal addressing CAFE standards was jointly developed by NHTSA and USEPA, with USEPA simultaneously proposing tailpipe CO_2 standards for the same vehicles covered by the same model years.

Construction Equipment Fuel Efficiency Standard

USEPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 hp and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles were to be completely phased in by the end of 2015.

State Regulations

Assembly Bill 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493 (2002), California's Advanced Clean Cars program (referred to as Pavley), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of the Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016, and Pavley II, which is now referred to as "Low Emission Vehicle (LEV) III GHG", regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

Assembly Bill 32 (Global Warming Solutions Act and Scoping Plan)

California's major initiative for reducing GHG emissions is established in Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that includes the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 million $MTCO_2e$. The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan Update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide goals. The 2013 Scoping Plan Update highlighted California's progress toward meeting the 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy

priorities, including those for water, waste, natural resources, clean energy, transportation, and land use. The State of California achieved its 2020 GHG emission reduction targets in 2016, and emissions have subsequently fallen further in 2018 to 425 $MMTCO_2e$.

Senate Bill 32 (Global Warming Solutions Act and Scoping Plan Extension)

Senate Bill (SB) 32 signed into law on September 8, 2016, tightens the requirements of AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, it recommends that local governments adopt policies consistent with statewide per capita goals of 6 $MTCO_2e$ by 2030 and 2 $MTCO_2e$ by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level).

AB 1279 (California Climate Crisis Act and Scoping Plan Extension)

The California Climate Crisis Act (AB 1279), signed into law on September 16, 2022, requires the State to achieve and maintain net zero GHG emissions as soon as possible, but not later than 2045. The Climate Crisis Act also requires the State to reduce Statewide anthropogenic GHG emissions to 85 percent below the 1990 levels by 2045. Updates to the scoping plan are required to identify and recommend measures to achieve these goals and identify and implement policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in the State.

On November 16, 2022, CARB also adopted the 2022 Scoping Plan, which provides a framework for achieving targets for carbon neutrality and reducing anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The 2022 Scoping Plan relies on significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Senate Bill 100 (100 Percent Clean Energy Act)

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The 2020 goal was met, with approximately 36 percent of electricity coming from renewable sources in March 2021.[40]

[40] CARB. 2021. California releases report charting path to 100 percent clean electricity. Available: https://ww2.arb.ca.gov/news/california-releases-report-charting-path-100-percent-clean-electricity (accessed August 2025).

Senate Bill 375 (Sustainable Communities and Climate Protection Act)

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPOs) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. Southern California Association of Governments (SCAG) was assigned targets of an 8 percent reduction in GHGs from transportation sources by 2020 and a 19 percent reduction in GHGs from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

Senate Bill 97 and CEQA Guidelines Update

SB 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in CEQA documents. In March 2010, the California Natural Resources Agency adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

California Code of Regulations Title 24 (California Building Code)

Updated every three years through a rigorous stakeholder process, Title 24 of the California Code of Regulations requires California homes and businesses to meet strong energy efficiency measures, thereby lowering their energy use. Title 24 contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). The California Building Code is applicable to all development in California. (Health and Safety Code §§ 17950 and 18938(b).) The regulations receive input from members of industry, as well as the public, with the goal of "[r]educing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy." (Pub. Res. Code § 25402.) These regulations are scrutinized and analyzed for technological and economic feasibility (Pub. Res. Code § 25402(d)) and cost effectiveness (Pub. Res. Code § 25402(b)(2) and (b)(3)).

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The CEC adopted the 2022 Standards on August 11, 2021, which went into effect on January 1, 2023. The 2025 Standards were most recently adopted on July 1, 2025, and will be in effect on January 1, 2026.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Minimum 20 percent reduction in indoor water use relative to specified baseline levels;[41]
- Waste Reduction:
  - Minimum 65 percent non-hazardous construction/demolition waste diverted from landfills;
  - Non-residential and Multifamily dwellings with 5 or more units shall provide readily accessible areas identified for the depositing, storage and collection of nonhazardous materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals;
  - Nonresidential: 100 percent of trees, stumps, rocks and associated vegetation soils resulting from primary land clearing shall be reused or recycled.
- Inspections of energy systems to ensure optimal working efficiency;

The CALGreen voluntary standards are only mandatory if a local ordinance requires them. The City adopts and modifies specific measures through the Berkeley Green Code (Berkeley Municipal Code Chapter 19.37), as described in the *Local Regulations* subsection, below.

Assembly Bill 341/Assembly Bill 1826 (Mandatory Recycling/Composting)

The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows diversion away from landfills of 75 percent of all solid waste by 2020 and annually thereafter. AB 1826 requires recycling of organic waste (i.e., composting). All businesses and public entities that generate four or more cubic yards of solid waste per week and multi-family residential dwellings that have five or more units are required to recycle and compost.

Senate Bills 350 and 100 (Renewable Portfolio/Clean Energy and Pollution Reduction Act)

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. This act also requires doubling the energy efficiency in existing buildings by 2030.

[41] Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 44 percent by 2024, 60 percent by 2030, and 100 percent by 2045.

Assembly Bill 1493 (Reduce GHG Emissions from Vehicle Use)

AB 1493 (Chapter 200, Statutes of 2002), known as the Pavley Bill, amended Health and Safety Code Sections 42823 and added 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

Assembly Bill 1007 (State Alternative Fuels Plan)

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare a State plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with CARB and in consultation with other federal, State, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality.

CARB In-Use On-Road and Off-Road Diesel Rules

The CARB rule imposes limits on idling, restricts the addition of older vehicles, and requires the retirement or replacement of older engines depending on their fleet size category. This policy indirectly impacts energy consumption. More specifically, CARB is also charged with developing air pollution control regulations based upon the best available control measures and implementing feasible control measures under the State and Federal Clean Air Act. (Health & Saf. Code, §§ 39602.5, 39667, 43013, subds. (a) and (h), 43018, 40600, 40601, 40612(a)(2) and (c)(1)(A).) Pursuant to these statutory authorities, more stringent emission standards were adopted in 2004 for off-road construction equipment (i.e., "Tier 4" standards) (40 Code of Federal Regulations Parts 1039, 1065, and 1068; Cal. Code Regs., tit. 13, § 2025; AR 2854). CARB also adopted emission standards for on-road heavy duty diesel vehicles (i.e., haul trucks). (Cal. Code Regs., tit. 13, § 1956.8.) These haul truck regulations mandate fleet turn-over to ensure that by January 1, 2023 nearly all on-road diesel trucks will have 2010 model year engines or equivalent [i.e. Tier 4]. In addition, interim steps are incorporated into the regulations (e.g., vehicles older than 1999 will be replaced with newer engines by 2020).

California Advance Clean Trucks Program

In June 2020, CARB approved the Advanced Clean Trucks regulation, which requires manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. In addition, the regulation requires company and fleet reporting for large employers and fleet owners with 50 or more trucks. By 2045, all new trucks sold in California must be zero-emission. Implementation of

this regulation would reduce consumption of nonrenewable transportation fuels as trucks transition to alternative fuel sources.

Executive Order B-48-18 (Zero-Emission Vehicles)

On January 26, 2018, Governor Brown signed Executive Order B-48-18 requiring all State entities to work with the private sector to have at least 5 million zero-emission vehicles (ZEVs) on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle (EV) charging stations by 2025. It specifies that 10,000 of the EV charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan, along with the 2018 ZEV Action Plan Priorities Update, which includes and extends the 2016 ZEV Action Plan (Governor's Interagency Working Group on Zero-Emission Vehicles 2016, 2018), to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities.

Executive Order N-79-20 (Zero Emissions Vehicles Sales)

Governor Gavin Newsom signed Executive Order N-79-20 in September 2020, which sets a statewide goal that 100 percent of all new passenger car and truck sales in the State will be zero-emissions by 2035. It also sets a goal that 100 percent of statewide new sales of medium- and heavy-duty vehicles will be zero emissions by 2045, where feasible, and for all new sales of drayage trucks to be zero emissions by 2035. Additionally, the Executive Order targets 100 percent of new off-road vehicle sales in the State to be zero emission by 2035. CARB is responsible for implementing the new vehicle sales regulation.

Senate Bill 1020

Senate Bill 1020 (SB 1020), signed into law on September 16, 2022, requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035, 95 percent by 2040, and 100 percent by 2045. All State agencies facilities must be served by 100 percent renewable and zero-carbon resources by 2030. SB 1020 also requires the Public Utilities Commission, Energy Commission, and CARB to issue a joint progress report outlining the reliability of the electrical grid with a focus on summer reliability and challenges and gaps. Additionally, SB 1020 requires the Public Utilities Commission to define energy affordability and use energy affordability metrics to develop protections, incentives, discounts, or new programs for residential customers facing hardships due to energy or gas bills.

CARB Gas Appliances Sales Ban

As part of the 2022 State Implementation Plan, CARB adopted a ban on new sales of natural gas heaters, water heaters, and furnaces by 2030 in September of 2022. This new measure is intended to reduce emissions from new residential and commercial space and water heaters sold in the State. An emission standard for space and water heaters will go into effect in 2030. Beginning in 2030, 100 percent of the sales of new natural gas-powered heaters and water heaters would need to comply with the emission standard, such as putting in electric heaters or other zero-emission options.

Regional and Local Regulations

Plan Bay Area 2050

Plan Bay Area 2050 is a State-mandated, integrated long-range transportation, land-use, and housing plan, known as a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), that would support a growing economy, provide more housing and transportation choices and reduce transportation-related pollution in the nine-county San Francisco Bay Area. Plan Bay Area 2050 builds on earlier efforts to develop an efficient transportation network and grow in a financially and environmentally responsible way. Plan Bay Area 2050 focuses on advancing equity and improving resiliency in the Bay Area by creating strategies in the following four elements: Housing, Economy, Transportation, and Environment. The Plan discusses how the future is uncertain due to anticipated employment growth, lack of housing options, and outside forces, such as climate change and economic turbulence. These uncertainties will impact growth in the Bay Area and exacerbate issues for those who are historically and systemically marginalized and underserved and excluded. Thus, Plan Bay Area 2050 has created strategies and considered investments that will serve those systemically underserved communities and provide equitable opportunities. The Plan presents a total of 35 strategies to identify how the $1.4 trillion dollar investment would be utilized. The strategies include, but are not limited to, the following: providing affordable housing, allowing higher-density in proximity to transit-corridors, optimizing the existing roadway network, creating complete streets, providing subsides for public transit, reducing climate emissions, and expanding open space area. To bring these strategies to fruition, it will require participation by agencies, policymakers, and the public. An implementation plan is also included as part of the Plan to assess the requirements needed to carry out the strategies, identify the roles of pertinent entities, create an appropriate method to implement the strategies, and create a timeline for implementation.

Alameda Countywide Transportation Plan

The Alameda County Transportation Commission adopted the 2026 Alameda Countywide Transportation Plan Policy Blueprint (CTP) in October 2024. The CTP builds upon prior transportation plans and establishes the County's transportation vision of safety, equity, climate, and economic vitality.

- **Safety:** Reduce fatalities and severe injuries of all users towards zero by deterring unsafe speeds, prioritizing vulnerable users, and implementing the Safe System Approach.
- **Equity:** Advance deliberate policies, systems, and actions to deliver a transportation system that removes barriers and transportation-related inequities and results in more equitable opportunities, access, and positive outcomes for marginalized communities.
- **Climate:** Create safe multimodal facilities to walk, bike and access public transportation to promote healthy outcomes and support strategies that reduce reliance on single-occupant vehicles and minimize impacts of pollutants and greenhouse gas emissions.
- **Economic Vitality:** Support a resilient Alameda County economy and vibrant local communities through a transportation system that is affordable, clean, reliable, well-maintained, and integrated with land uses that support sustainable travel.

Berkeley General Plan

The City of Berkeley's General Plan, adopted in April 2001, includes the following applicable policies and actions as part of the Environmental Management Element and Transportation Element that support the goal of reducing GHG emissions:[42, 43]

Policy EM-5: "Green" Buildings.

Promote and encourage compliance with "green" building standards.

Policy EM-7: Reduced Wastes.

Continue to reduce solid and hazardous wastes.

Policy EM-8: Building Reuse and Construction Waste.

Encourage rehabilitation and reuse of buildings whenever appropriate and feasible in order to reduce waste, conserve resources and energy, and reduce construction costs.

Policy EM-18: Regional Air Quality Action.

Continue working with the Bay Area Air Quality Management District and other regional agencies to:

1. Improve air quality through pollution prevention methods.
2. Ensure enforcement of air emission standards.
3. Reduce local and regional traffic (the single largest source of air pollution in the city) and promote public transit.
4. Promote regional air pollution prevention plans for business and industry.
5. Promote strategies to reduce particulate pollution from residential fireplaces and woodburning stoves.
6. Locate parking appropriately and provide adequate signage to reduce unnecessary "circling" and searching for parking.

Policy EM-19: 15 percent Emission Reduction Global Warming Plan.

Make efforts to reduce local emissions by 15% by the year 2010.

Policy EM-35: Energy-Efficient Design.

Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.

Policy EM-41: Fossil Fuel.

Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.

Policy UD-33 Sustainable Design.

Promote environmentally sensitive and sustainable design in new buildings.

[42] Berkeley, City of. 2001. Berkeley General Plan Transportation Element. https://berkeleyca.gov/sites/default/files/2022-02/General-Plan_Transportation-Element.pdf. (accessed July 2025).
[43] Berkeley, City of. 2002. Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan (accessed June 2025).

Policy T-10: Trip Reduction.

To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips, such as:

1. Participation in a citywide Eco-Pass Program (also see Transportation Policy T-3).
2. Participation in the Commuter Check Program.
3. Carpooling and provision of carpool parking and other necessary facilities.
4. Telecommuting programs.
5. "Free bicycle" programs and electric bicycle programs.
6. "Car-sharing" programs.
7. Use of pedal-cab, bicycle delivery services, and other delivery services.
8. Programs to encourage neighborhood-level initiatives to reduce traffic by encouraging residents to combine trips, carpool, telecommute, reduce the number of cars owned, shop locally, and use alternative modes.
9. Programs to reward Berkeley citizens and neighborhoods that can document reduced car use.
10. Limitations on the supply of long-term commuter parking and elimination of subsidies for commuter parking.
11. No-fare shopper shuttles connecting all shopping districts throughout the city.

Policy T-43: Bicycle Network.

Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle-parking facilities to promote cycling.

Berkeley Climate Action Plan

The City of Berkeley adopted a Climate Action Plan (CAP) in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP center around the following topics:[44]

- Sustainable Transportation and Land Use
- Building Energy Use
- Waste Reduction and Recycling
- Community Outreach and Empowerment
- Preparing for Climate Change Impacts

While the CAP is not considered a “qualified greenhouse gas reduction plan” for the purposes of streamlining GHG emissions analysis under CEQA, it is actively used by the City for guiding GHG emission reduction efforts. Since publication of the CAP, the City has identified several additional climate commitments:

- 100 percent renewable electricity by 2035, adopted through Resolution No. 68,486-N.S. on June 12, 2018.

[44] Berkeley, City of. 2009. Berkeley Climate Action Plan. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-climate-action-plan (accessed August 2025).

- Net-Zero Carbon Emissions by 2045, in alignment with California Executive Order B-55- 18 and AB 1279, adopted through Resolution No. 69,852-N.S. on May 11, 2021.
- Declared a Climate Emergency and resolved to become a Fossil Fuel Free City, adopted through Resolution No. 68,486-N.S. on June 12, 2018.

Berkeley Resilience Strategy

In 2016, the City released its Resilience Strategy to advance the City's resilience, or the ability of the individuals, institutions, businesses, and systems within the community to survive, adapt, and grow no matter what chronic stress or acute shock it experiences. Berkeley's interconnected resilience challenges include earthquakes, wildfires, climate change impacts such as drought and flooding, and racial inequity. The City's Resilience Strategy emphasizes building community resilience by facilitating stronger connections between neighbors; between public, private, nonprofit, and academic institutions; between departments within the City government; and between Bay Area local and regional governments. The six goals of the Resilience Strategy are:[45]

- Build a Connected and Prepared Community
- Accelerate Access to Reliable and Clean Energy
- Adapt to the Changing Climate
- Advance Racial Equity
- Excel at Working Together within City Government to Better Serve the Community
- Build Regional Resilience

Electric Mobility Roadmap

In July 2020, the City adopted its first Electric Mobility Roadmap, which establishes the City's plan to implement its vision of a fossil fuel-free transportation system that integrates with and supports the City's ongoing efforts to increase walking, biking, and public transportation use in Berkeley and ensures equitable and affordable access to the benefits of clean transportation. The Electric Mobility Roadmap includes strategies to increase electric vehicle charging stations in new and existing development, provide public electric vehicle charging on City properties, advance electric bus rapid transit routes, electrify shared transportation fleets and private fleets, and increase the share of electric vehicle charging powered by 100 percent renewable energy (City of Berkeley 2020).

Berkeley Municipal Code

Chapter 14.05 of Title 14 adopts by reference and incorporates the California Building Standards Code, 2019 Edition, Title 24. This includes adoption, with modifications of Title 24 Part 6, the California Energy Code, and Title 24 Part 11, the California Green Building Standards Code (CALGreen). Please see below for a summary of the City's requirements, including the modifications that were made to include stricter local provisions.

CITY OF BERKELEY CODE RE-ADOPTION ORDINANCE (ORDINANCE NO. 7,906—N.S., 2024)

In June 2024, the City of Berkeley re-adopted its local building codes, incorporating local amendments to the 2022 California Building Standards Code. The ordinance updates Berkeley Municipal Code Chapters 19.28-19.37, covering the Building, Residential, Electrical, Mechanical,

[45] Berkeley, City of. 2016. Berkeley Resilience Strategy. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-resilience-strategy (accessed August 2025).

Plumbing, Energy, and Green Building Codes. These updates include stricter local provisions specific to Berkeley's seismic, fire, and environmental conditions. Provisions of Chapter 19.37 of the ordinance, which specifically adopts and amends the Green Building Codes, that are applicable to the project include:

- Enhanced EV infrastructure requirements for residential and nonresidential developments (Berkeley Municipal Code 19.37.040 amends CALGreen Subsections 4.106.4.1, 4.106.4.2.2, 5.106.5.3.1, 5.106.5.3.2,and 5.106.5.3.6);
  - Subsection 5.106.5.3.1, which is for Nonresidential Mandatory Measures has been modified to indicate that 20 percent of the total number of parking spaces shall be EV capable spaces.
  - Subsection 5.106.5.3.2, which is for Nonresidential Mandatory Measures has been modified to indicate that 10 percent of the total number of parking spaces shall be EV capable spaces shall be provided with electric vehicle supply equipment (EVSE).
- Requirements for a minimum 25 percent reduction in cement use unless infeasible for high early strength (Berkeley Municipal Code 19.37.040 amends CALGreen Subsection 4.405.1 and 5.405.1);
- Enhanced construction and demolition waste diversion regulations to require 100 percent diversion or reuse of excavated soil, land-clearing debris, concrete, and asphalt, and 100 percent reuse or recycle of specified nonresidential land-clearing materials (Berkeley Municipal Code Section 19.37.040 amends CALGreen Subsection 4.408.1 and 5.408.3)

See Section 3.14, *Utilities and Service Systems*, for a discussion on additional provisions of the City of Berkeley Code Re-Adoption Ordinance.

CITY OF BERKELEY ORDINANCE NO. 7, 156 – N.S.

Ordinance No. 7, 156—N.S. amends Chapter 19.24 of the Berkeley Municipal Code, Construction and Demolition Debris Salvage and Recycling. This ordinance modifies Subsection 4.408.1, Construction Waste Management, to require the recycle and/or salvage for reuse of 100 percent of excavated soil and land-clearing debris, 100 percent of concrete, 100 percent of asphalt and a minimum of 65 percent of other nonhazardous construction and demolition waste in accordance with Subsection 4.408.2, 4.408.3, or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. This ordinance allows for the enforcing agency to make exceptions to these requirements when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

Bay Area Air District Best Management Practices for Construction GHG Emissions

Because construction emissions are temporary and variable, the Air District has not developed a quantitative threshold of significance for construction-related GHG emissions. Even though the significance of construction-related GHG emissions is not determined, in order to minimize GHG emissions and emissions of other air quality pollutants, projects should incorporate the best management practices for reducing GHG emissions listed below.

Best Management Practices for Reducing Construction Related GHG Emissions:

- Use zero-emission and hybrid-powered equipment to the greatest extent possible, particularly if emissions are occurring near sensitive receptors or located within a BAAQMD-designated Community Air Risk Evaluation (CARE) area or Assembly Bill 617 community

- Require all diesel-fueled off-road construction equipment be equipped with EPA Tier 4 Final compliant engines or better as a condition of contract. Require all on-road heavy-duty trucks to be zero emissions or meet the most stringent emissions standard, such as model year (MY) 2024 to 2026, as a condition of contract.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 2 minutes (A 5-minute limit is required by the state airborne toxics control measure [Title 13, Sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site and develop an enforceable mechanism to monitor idling time to ensure compliance with this measure.
- Prohibit off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Use California Air Resources Board–approved renewable diesel fuel in off-road construction equipment and onroad trucks.
- Use U.S. Environmental Protection Agency SmartWay certified trucks for deliveries and equipment transport.
- Require all construction equipment is maintained and properly tuned in accordance with manufacturer's specifications. Equipment should be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Where grid power is available, prohibit portable diesel engines and provide electrical hook ups for electric construction tools, such as saws, drills and compressors, and using electric tools whenever feasible.
- Where grid power is not available, use alternative fuels, such as propane or solar electrical power, for generators at construction sites.
- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking to construction workers and offer meal options onsite or shuttles to nearby meal destinations for construction employees.
- Reduce electricity use in the construction office by using LED bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.
- Minimize energy used during site preparation by deconstructing existing structures to the greatest extent feasible.
- Recycle or salvage nonhazardous construction and demolition debris, with a goal of recycling at least 15% more by weight than the diversion requirement in Title 24.
- Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products used should be certified through a sustainable forestry program.
- Use low-carbon concrete, minimize the amount of concrete used and produce concrete on-site if it is more efficient and lower emitting than transporting ready-mix.
- Develop a plan to efficiently use water for adequate dust control since substantial amounts of energy can be consumed during the pumping of water.
- Include all requirements in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant on- or off-road construction equipment for use prior to any ground-disturbing and construction activities.

3.6.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to GHG emissions and energy. Would the proposed project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
c) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
d) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Approach to Analysis

GHG Emissions Generation

Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential effects of the proposed project related to GHG emissions. The analysis focuses on CO_2, CH_4, and N_2O because these comprise 98 percent of all GHG emissions by volume and are the GHG emissions the proposed project would emit in the largest quantities.[46] Emissions of all GHGs are converted into their equivalent GWP in terms of CO_2 (i.e., CO_2e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total. GHG emissions associated with proposed project construction and operational activity were calculated using the CalEEMod version 2022.1 (see Appendix B for calculations).

Based on project-level guidance from the 2022 Bay Area Air District *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans,* GHG emissions associated with implementation of the proposed project are discussed qualitatively by comparing the proposed project to the 2022 GHG thresholds. In addition, the proposed project is qualitatively compared to other applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs.

CONSTRUCTION

Construction of the project would occur over approximately 21 months. During construction, the proposed project would generate GHG emissions primarily from the use of internal combustion engines to power on-site equipment as well as off-site transportation of workers and materials. Further detail for the assumptions included in the modeling of GHG emissions is provided in Section 3.2, *Air Quality*. Because construction emissions occur for a limited period of a project's lifetime, as a standard practice, GHG emissions from construction are amortized over a presumed project lifetime. In accordance with Association of Environmental Professional's recommendation, GHG

[46] IPCC. 2014. Frequently Asked Questions. Available: https://www.ipcc-nggip.iges.or.jp/faq/FAQ.pdf (accessed August 2025).

emissions from construction of the proposed project were amortized over a 30-year period and added to annual operational emissions to determine the project's total annual GHG emissions.[47]

OPERATION

Operation of the proposed project is expected to begin in 2028. Details for mobile source and area source inputs included in the modeling of GHG emissions are provided in Section 3.2, *Air Quality.* Additional sources that are not part of the air quality analysis in Section 3.2, *Air Quality,* that contribute to the release of GHG emissions include the following.

Energy Sources

Energy source emissions are based on CalEEMod default assumptions for the proposed land use types in each buildout scenario. Emissions from energy use include electricity and natural gas use. The proposed project would generate GHG emissions from electricity use associated with the restroom building[48] and the electric ferry vessels (from electricity consumption). The proposed project would be served by Pacific Gas & Electric (PG&E). Specific energy intensity factors (i.e., the amount of CO_2e per megawatt-hour) from PG&E are used in the calculation of GHG emissions. The proposed project also includes the option to install a photovoltaic (PV) system and a battery energy storage system (BESS) to support charging of electric vehicles (EVs). However, for the purposes of a conservative analysis, energy generated by the PV system was not accounted for in the analysis.

The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies. The 2022.1 CalEEMod currently incorporates California's 2019 Title 24 building energy efficiency standards. CalEEMod assumption values for health club and parking lot fixtures were used in the analysis.

The project would be serviced by the Ava Community Energy, which will source all of its power from renewable resources by 2030. The analysis conservatively assumes the CalEEMod estimated emissions from electrical consumption for the project operations in 2028 would also occur in 2029 with a jump to 100 percent renewable electricity in 2030. In addition, for purposes of energy-related GHG emissions modeling, the project is assumed to stay in its initial automatically enrolled Ava Renewable 100 plan. The two years worth of operational GHG emissions from electrical generation are amortized over the 30-year life of the project to account for the majority of the project being serviced by 100 percent renewable resources.

Waste Sources

GHG emissions from waste generation were also calculated in CalEEMod and are based on CARB's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste.[49] Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the CalRecycle.

Water and Wastewater Sources

The analysis used CalEEMod default water and wastewater consumption rates to determine GHG emissions from water and wastewater sources. CalEEMod calculated GHG emissions from water and

[47] Association of Environmental Professionals. 2016. Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. Available: https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf (accessed August 2025).
[48] Health club energy rates were used as a proxy for the restroom building.
[49] CARB. 2010. Regulation for Mandatory Reporting Of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32). Available: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2010/ghg2010/ghgisor.pdf (accessed October 2025).

wastewater usage based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California[50] and the average values for northern and southern California.

Mobile Sources

The proposed project would result in 1,127 new trips per day to the project site. The 1,127 trips would travel on average 8 miles per day each to the Berkeley Waterfront.[51] Approximately 425 to 475 parking spaces would be used by these new trips as part of the project. Of these total spaces, 20 percent (85-95) would be EV capable. In addition to these EV capable spaces, another 10 percent (43-48 spaces) would have Level 2 charging stations implemented when the project begins operation. For modeling purposes, the project assumes 43 spaces would have charging stations incorporated at the beginning of project operations. Without the Ferry service to San Francisco, the 1,127 trips per day would travel an estimated 25 miles per day each for a round trip to San Francisco.[52]

The modeling for the analysis incorporates the 1,127 trips per day at 8 miles each as project emissions, 1,127 trips per day at 25 miles each as eliminated emissions, and the implementation of charging stations for the 43 spaces as eliminated emissions. The additional electrical use from the 43 charging stations was also incorporated as additional emissions.

Energy Consumption

Public Resources Code Section 21100(b)(3) states that an EIR shall include "mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." The physical environmental impacts associated with the use of energy, including the consumption of electricity and burning of fuels, have been accounted for in Section 3.2, *Air Quality*, and with respect to GHG impacts below.

Energy consumption is analyzed here in terms of construction and operational energy. Construction energy demand accounts for anticipated energy consumption during construction of the proposed project, such as fuel consumed by construction equipment and construction workers' vehicles traveling to and from construction sites in the county. However, as project construction would only create a temporary increase in energy demand, energy consumption from construction will be analyzed qualitatively.

Operational energy demand accounts for the anticipated energy consumption during operation of the proposed project, including but not limited to, electrical systems, indoor and outdoor lighting, and fuel and electricity consumption from vehicle and electric ferry operations. Calculations for energy consumption are contained in Appendix B. The project would be serviced by Ava Community Energy, which will have 100 percent of electrical generation from renewable sources by 2030. For purposes of energy consumption modeling, the project is assumed to stay in its initial automatically enrolled Ava Renewable 100 plan.

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to various concerns regarding greenhouse gas emissions and energy.

[50] CEC. 2006. Refining Estimates of Water Related Energy Use in California, PIER Final Project Report, CEC-500-2006-118. December.
[51] See Section 3.12, *Transportation* of this EIR.
[52] See Section 3.12, *Transportation* of this EIR.

Scoping comments related to greenhouse gas emissions and energy included providing impacts from greenhouse gas emissions, electricity use, and carbon emissions from electricity. These topics are addressed in Impacts GHG-1 through GHG-3.

Specific Thresholds of Significance

GHG Emissions Generation and Plan Consistency

Most individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]). The Bay Area Air District adopted updated thresholds of significance for climate impacts on April 20, 2022.[53] The updated thresholds do not provide a numeric threshold for use with emissions estimates, and project significance is determined by compliance with implemented project design elements. Under the updated thresholds, for construction emissions, project significance is defined by incorporation of applicable best management practices listed under Bay Area Air District Regulations above. For operational emissions a project must include, at a minimum, the following project design elements, or must be consistent with a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b):

- **Buildings**
  - The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
  - The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under Public Resources Code Section 21100(b)(3) and Section 15126.2(b) of the *CEQA Guidelines*.
- **Transportation**
  - Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
    - Residential projects: 15 percent below the existing VMT per capita
    - Office projects: 15 percent below the existing VMT per employee
    - Retail projects: no net increase in existing VMT
  - Achieve compliance with off-street EV requirements in the most recently adopted version of CALGreen Tier 2.

[53]Bay Area Air District. 2022. CEQA Thresholds and Guidelines Update. Available: https://www.baaqmd.gov/?sc_itemid=CDA5FAE5-BBDC-4337-A10C-5648BCD2D71F (accessed August 2025).

Because the Berkeley Climate Action Plan does not incorporate the California Air Resources Board California Climate Change 2022 Scoping Plan Updates, significance for GHG emissions is based on compliance with the Bay Area Air District updated thresholds.

Energy Consumption and Plan Consistency

The City of Berkeley does not have quantitative thresholds for evaluation of energy; however, the following qualitative thresholds are used to evaluate the significance of energy impacts resulting from implementation of the proposed project if it would:

- Result in a wasteful, inefficient, and unnecessary consumption of energy during construction and operational activities; or if
- Construction and operation of buildings and appliances would not adhere to the energy-use reduction measures included in CALGreen.

Impact Evaluation

GHG Emissions Generation and GHG Reduction Plans Consistency

Significance Criterion a:	Would the proposed project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
Significance Criterion b:	Would the proposed project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Impact GHG-1 THE PROPOSED PROJECT WOULD GENERATE TEMPORARY CONSTRUCTION-RELATED INCREASES IN GHG EMISSIONS BUT WOULD RESULT IN A LONG-TERM OVERALL DECREASE IN GHG EMISSIONS. THE PROPOSED PROJECT WOULD NOT CONFLICT WITH THE BAY AREA AIR DISTRICT 2022 CEQA GHG GUIDELINES NOR STATE, REGIONAL, OR LOCAL GHG REDUCTION PLANS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction

Construction activities would result in GHG emissions. GHG emissions during construction would result primarily from fuel consumption associated with heavy equipment, light-duty vehicles, machinery, and generators for lighting. Temporary grid power may also be provided to construction trailers or electric construction equipment that may result in indirect GHG emissions from the energy generation. Project construction would incorporate Bay Area Air District best management practices to reduce GHG emissions during construction activities. Project construction would also utilize construction contractors that comply with applicable CARB regulations such as accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment, and restricted idling of heavy-duty diesel motor vehicles. These reduction practices are enforced through permitting requirements with the Air District as well as specifications included in the construction contracts. Construction contractors are required to comply with the provisions of CCR Title 13, sections 2449 and 2485, prohibiting diesel-fueled commercial and off-road vehicles from idling for more than five minutes, minimizing unnecessary GHG emissions. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would minimize inefficient fuel consumption and thus GHG emissions. These construction equipment standards (i.e., Tier 4 efficiency requirements) are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068. Per applicable regulatory requirements of CALGreen, project construction

would comply with construction waste management practices to divert construction and demolition debris from landfills. These practices would result in efficient use of energy during project construction and, therefore, would minimize unnecessary GHG emissions. Furthermore, in the interest of cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary, which would also have the effect of minimizing GHG emissions.

Pursuant to the 2022 Bay Area Air District CEQA Air Quality Guidelines, the Air District does not recommend a construction-related climate impact threshold. According to the Bay Area Air District, GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions. Since the proposed thresholds for projects are designed to address operational GHG emissions that represent the vast majority of project GHG emissions, the evaluation of GHG emissions impacts associated with project implementation is focused on operational emissions, discussed below. Table 3.6-4 shows the project's total emissions of GHG emissions over the 21 months of construction. Emissions reported in Table 3.6-4 would be reduced through the incorporation of the Best Management Practices for construction GHG emissions identified in the Regulatory Framework discussion above. These Best Management Practices would be incorporated to the best of the project's ability as determined by the selected construction contractor and included as part of the construction contract.

Table 3.6-4 Annual Construction Emissions of Greenhouse Gases for the Project

Emission Source	Annual Emissions (CO_2e in metric tons)
2027	24,301
2028	24,301
Total	**48,601**
Amortized Annual Construction GHG Emissions	1,620

Source: Appendix B

Operation

GHG EMISSIONS GENERATION

The proposed project is primarily an electric ferry and recreational improvements project. While the proposed project would result in potential GHG emissions from operation, including from vehicles accessing the project site and energy use for the proposed project, the project would result in an overall decrease in GHG emissions. Because the project would result in a reduction in VMT, would at a minimum meet the 2025 CALGreen mandatory measures with respect to EV charging installation, would not include natural gas plumbing, and would not result in wasteful, unnecessary, or inefficient energy use as detailed in Impact GHG-2 below, operational impacts related to generation of GHG emissions would be less than significant.

Because significance determinations are based on consistency with the Bay Area Air District reduction strategy as detailed under Consistency with State GHG Reduction Plans below, emissions from the proposed project are shown in Table 3.6-5 for informational purposes only. Table 3.6-5 provides the project's estimated GHG emissions. Based on modeling, an additional 490 MWh per year would be consumed in the initial operating year (2028). GHG emissions are anticipated to be less than estimated, as the project may incorporate on-site solar; however, the extent of on-site solar incorporation is unknown at this time.

While not utilized for EIR significance conclusions, it should be noted that the project operational annual GHG emissions shown in Table 3.6-5 in combination with the project construction GHG emissions shown in Table 3.6-4 and amortized over 30 years reflects net negative GHG emissions for the project overall.

Table 3.6-5 Annual Operational Emissions of Greenhouse Gases for the Project

Emission Source	Annual Emissions (CO_2e in metric tons)[1]
Mobile Project Specific VMT	889
Area	<1
Energy[2]	121
Water	<1
Waste	<1
Refrigeration	<1
Operational Subtotal	**1,010**
Existing Commutes	(2,351)
Reductions from EV Chargers	(1,075)
Electrical Consumption from EV Chargers	48
Net GHG Operational Emissions	**(2,368)**

[1] Parenthetical numbers are negative numbers

[2] Emissions from CalEEMod for 2028 Energy were doubled to account for 2028 and 2029 not being serviced by 100 percent renewable resources (1,815 *2 = 3,631). This value is amortized over the 30 years of operation as there are no additional electrical emissions past 2030 (3,631 / 30 = 121)

Source: Appendix B

CONSISTENCY WITH STATE GHG REDUCTION PLANS

Applicable plans and policies to the proposed project for reducing GHG emissions include the CARB California Climate Change 2022 Scoping Plan, Plan Bay Area 2050, Berkeley General Plan, and Berkeley Climate Action Plan.

2022 Scoping Plan

The principal State plans and policies for reducing GHG emissions are SB 32 and AB 1279, with their implementation direction provided by the 2022 California Climate Change Scoping Plan (2022 Scoping Plan). The quantitative goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030; and the goal of AB 1279 is to achieve net zero GHG emissions no later than 2045 and reduce GHG emissions by 85 percent below 1990 levels no later than 2045. The 2022 Scoping Plan expands upon earlier plans to include the AB 1279 targets.

The Bay Area Air District has determined criteria by which projects within the Bay Area Air District jurisdiction would be consistent with the 2022 Scoping Plan. Consistency with these criteria is discussed below. The proposed project must be consistent with a qualified local climate action plan or meet each of the following criteria. As Berkeley does not have a current qualified Climate Action Plan, consistency with the Air District's criteria is used for determining significance. The criteria are:

12. Buildings
    - The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development),

- The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under Public Resources Code Section 21100(b)(3) and Section 15126.2(b) of the *CEQA Guidelines*.

13. Transportation
    - Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
        - Residential projects: 15 percent below the existing VMT per capita
        - Office projects: 15 percent below the existing VMT per employee
        - Retail projects: no net increase in existing VMT
    - Achieve compliance with off-street, EV parking requirements pursuant to the most recently adopted version of CALGreen Tier 2.

The proposed project would be consistent with latest (2025) CALGreen and Building Energy Efficiency Standard requirements and would not include natural gas appliances or plumbing. In addition, the ferry vessels would be powered by electricity and would not require gasoline or diesel fuel. The proposed project would not result in wasteful, inefficient, or unnecessary energy usage and would be consistent with Criterion A of the Bay Area Air District CEQA GHG guidelines, as detailed in Impact GHG-2 below. Thus, the proposed project would comply with CALGreen and Building Energy Efficiency Standard requirements and would not conflict with the 2022 Scoping Plan.

The proposed project would result in a net decrease of VMT by converting automobile trips to ferry trips, which will exceed the most stringent VMT reduction measures implemented by the Bay Area Air District for retail projects of no net increase in VMT. While the project is not a typical development project as defined in the VMT reduction scenarios listed above, the "no net increase" requirement is a valid standard for evaluating the project.

The proposed project would also be required to comply with CALGreen measures with respect to EV charging stations. Of the 425 to 475 proposed total parking spaces needed for the project, a minimum of 85 to 95 of those total spaces, respectively, would be EV Capable (have conduits from the panel and space in the electrical panel for future Level 2 charger), and a minimum of 43 additional spaces (beyond the 85 to 95 EV Capable spaces), would include a Level 2 EV charger. Thus, the proposed project would exceed the 2025 mandatory CALGreen requirements. Although the Bay Area Air District recommends compliance with the CALGreen Tier 2 voluntary measures for EV charging station inclusion, that measure is intended for typical development within the Bay Area where VMT to a project site would typically increase or reach a net zero balance. The unique nature of the proposed project is such that its main purpose is to reduce VMT within the region. Given the unique nature of the project and the net reduction in GHG emissions achieved with the use of the 2025 CALGreen mandatory measures, the project exceeds the Net Zero 2045 emissions goal of the 2022 Scoping Plan and, therefore, achieves the overall goals of both the Bay Area Air District updated thresholds and the 2022 Scoping Plan without the implementation of the Tier 2 Voluntary CALGreen measures. Therefore, the proposed project would not conflict with the Bay Area Air District thresholds and also would not conflict with the 2022 Scoping Plan.

Overall, operational building- and transportation-specific impacts related to consistency with State GHG reduction plans would be less than significant.

CONSISTENCY WITH REGIONAL AND LOCAL GHG REDUCTION REGULATIONS

Plan Bay Area 2050

Table 3.6-6 shows the proposed project's consistency with Plan Bay Area 2050. As shown therein, the proposed project would be consistent with Plan Bay Area 2050, and impacts would be less than significant.

Table 3.6-6 Project Consistency with Plan Bay Area 2050

Measure	Project Consistency
T8. Build a Complete Streets network. Enhance streets to promote walking, biking and other micro-mobility through sidewalk improvements, car-free slow streets, and 10,000 miles of bike lanes or multi-use paths.	**Consistent.** The proposed project would reconstruct the pier and renovate the surrounding area, which would include improvements to streets, sidewalks, pathways, and trails. In addition, the proposed project would also install bike lockers and bike racks. These improvements would encourage alternative modes of transportation, thereby reducing vehicle trips and GHG emissions.
T10. Enhance local transit frequency, capacity and reliability. Improve the quality and availability of local bus and light rail service, with new bus rapid transit lines, South Bay light rail extensions, and frequency increases focused in lower-income communities.	**Consistent.** The proposed project would involve transit improvements, such as new ferry service, a cycle track, and bus infrastructure. The bus infrastructure associated with the proposed project would allow for future AC Transit expansion of service. In addition, the new electric ferry service would increase high-quality transit options and reliability for trips across the bay. Therefore, the proposed project would not conflict with this measure.
EN4. Maintain urban growth boundaries. Using urban growth boundaries and other existing environmental protections, focus new development within the existing urban footprint or areas otherwise suitable for growth, as established by local jurisdictions.	**Consistent.** The proposed project would reconstruct the existing pier and renovate the existing streets, sidewalks, pathways, and trails. Therefore, the proposed project would continue to maintain urban growth boundaries and would not conflict with this measure.
EN6. Modernize and expand parks, trails and recreation facilities. Invest in quality parks, trails and open spaces that provide inclusive recreation opportunities for people of all backgrounds, abilities and ages to enjoy.	**Consistent.** The proposed project would renovate the existing streets, sidewalks, pathways, and trails in the area surrounding the pier. These improvements would also include extension of the Bay Trail. The proposed project would also install additional recreational amenities adjacent to a portion of the proposed Bay Trail Extension, which could include recreation amenities such as picnic tables, benches/seating, bicycle parking, and/or interactive sculptural elements. These improvements would encourage active transportation and alternative modes of travel to the project site, which would reduce vehicle trips and GHG emissions.
EN8. Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers.	**Consistent.** The proposed project would install approximately 43 EV charging stations, which would expand the support for clean vehicle use within the region. The proposed project would also employ ferry vessels powered by electricity instead of gasoline or diesel. These project features would encourage utilization of clean fuels from low emission vehicles, which would minimize GHG impacts.

Source: Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Plan Bay Area 2050. https://planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf. (accessed June 2025).
Compiled by Rincon in 2025.

Berkeley General Plan

The Transportation Element, Environmental Management Element, and Urban Design and Preservation Element of the Berkeley General Plan contain policies and actions aimed at reducing GHG emissions. As shown in Table 3.6-7, the proposed project would be consistent with these Berkeley General Plan policies and actions.

Table 3.6-7 Project Consistency with Berkeley General Plan

General Plan Policy or Action	Consistency
Transportation Element	
Policy T-5 Light Rail/Bus Rapid Transit. Support regional efforts to develop light rail or bus rapid transit service connecting East Bay cities.	**Consistent**: The proposed project would involve transit improvements, such as new ferry service, a cycle track, and bus infrastructure. The bus infrastructure associated with the proposed project would allow for future AC Transit expansion of service. In addition, the new electric ferry service would increase high-quality transit options and reliability for trips across the bay. These project features would promote use of public transit, would reduce VMT and, in turn, GHG emissions. Therefore, the proposed project would not conflict with this measure.
Policy T-10 Trip Reduction. To reduce automobile traffic and congestion and increase transit use and alternative modes in Berkeley, support, and when appropriate require, programs to encourage Berkeley citizens and commuters to reduce automobile trips, such as: A. Participation in a citywide Eco-Pass Program (also see Transportation Policy T-3). B. Participation in the Commuter Check Program. C. Carpooling and provision of carpool parking and other necessary facilities. D. Telecommuting programs. E. "Free bicycle" programs and electric bicycle programs. F. "Car-sharing" programs. G. Use of pedal-cab, bicycle delivery services, and other delivery services. H. Programs to encourage neighborhood-level initiatives to reduce traffic by encouraging residents to combine trips, carpool, telecommute, reduce the number of cars owned, shop locally, and use alternative modes. I. Programs to reward Berkeley citizens and neighborhoods that can document reduced car use. J. Limitations on the supply of long-term commuter parking and elimination of subsidies for commuter parking. K. No-fare shopper shuttles connecting all shopping districts throughout the city.	**Consistent**: As the proposed project would involve transit improvements, such as street improvements and additional bus stops and infrastructure, the project features would promote use of public transit. In addition, the new electric ferry service would increase high-quality transit options and reliability for trips across the bay. These services would reduce vehicle trips within the City and across the Bay, and implementation of the proposed project would reduce VMT and GHG emissions.

General Plan Policy or Action	Consistency
Policy T-19 Air Quality Impacts. Continue to encourage innovative technologies and programs such as clean-fuel, electric, and low-emission cars that reduce the air quality impacts of the automobile.	**Consistent.** The proposed project would install approximately 43 EV charging stations, which would expand the support for clean vehicle use within the region. The proposed project would also employ ferry vessels powered by electricity instead of gasoline or diesel. These project features would encourage utilization of clean fuels from low emission vehicles, which would minimize GHG impacts.
Environmental Management Element	
Policy EM-5 Green Buildings. Promote and encourage compliance with "green" building standards.	**Consistent**: The proposed project would involve construction of a restroom building, which would be all electric and would require energy-efficient lighting and plumbing fixtures, consistent with latest CALGreen and Building Energy Efficiency Standard requirements. Therefore, the proposed project would be consistent with this measure.
Policy EM-18 Regional Air Quality Action Continue working with the Bay Area Air Quality Management District and other regional agencies to: A. Improve air quality through pollution prevention methods. B. Ensure enforcement of air emission standards. C. Reduce local and regional traffic (the single largest source of air pollution in the city) and promote public transit. D. Promote regional air pollution prevention plans for business and industry. E. Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves. F. Locate parking appropriately and provide adequate signage to reduce unnecessary "circling" and searching for parking	**Consistent.** The proposed project would install approximately 43 EV charging stations, which would expand the support for clean vehicle use within the region. The proposed project would also employ ferry vessels powered by electricity instead of gasoline or diesel. The proposed project would involve transit improvements, such as new ferry service, a cycle track, and bus infrastructure. The bus infrastructure associated with the proposed project would allow for future AC Transit expansion of service. In addition, the new electric ferry service would increase high-quality transit options and reliability for trips across the bay. These project features would reduce VMT and, in turn, GHG emissions. Therefore, the proposed project would not conflict with this measure.
Policy EM-21 Alternative Fuels Work with the University of California, the Berkeley Unified School District, and other agencies to establish natural gas fueling and electric vehicle recharging stations accessible to the public.	**Consistent.** The proposed project would install approximately 43 EV charging stations, which would expand the support for clean vehicle use within the region. In addition, the proposed project would involve installation of a BESS for energy storage for charging ferry vessels, which would further promote use of alternative fuels thereby reducing GHG impacts.
Policy EM-35 Energy-Efficient Design. Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.	**Consistent**: The proposed project would involve construction of a restroom building, which would be built to meet the standards set in the latest CALGreen and Building Energy Efficiency Standards. Furthermore, the proposed project would employ electric ferry vessels, which would promote use of energy from renewable sources, reducing GHG emissions.
Policy EM-41 Fossil Fuel Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.	**Consistent.** The proposed project would install approximately 43 EV charging stations, which would expand the support for clean vehicle use within the region. The proposed project would also employ electric ferry vessels, reducing reliance on fossil fuels such as gasoline or diesel. Therefore, the proposed project would not conflict with this measure.

General Plan Policy or Action	Consistency
Urban Design and Preservation Element	
Policy UD-33 Sustainable Design. Promote environmentally sensitive and sustainable design in new buildings. *Actions:* A. Promote compliance with green building standards for solar accessibility and orientation, energy efficiency, etc. B. Encourage use of recycled building materials. C. Establish guidelines that will help to integrate environmentally sensitive and sustainable designs into the built environment.	**Consistent:** The proposed project would involve installation of a pre-fabricated restroom building, which would be built to meet the standards set in the latest CALGreen and Building Energy Efficiency Standards. City of Berkeley requires that all new concrete installed at City projects shall contain fly-ash (a byproduct of coal production) using ASTM C 618, Class F specifications, thereby reducing the impacts of the landfilling of fly-ash.

Sources: Berkeley, City of. 2001. Berkeley General Plan Transportation Element. https://berkeleyca.gov/sites/default/files/2022-02/General-Plan_Transportation-Element.pdf. (accessed July 2025); Berkeley, City of. 2002. Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan (accessed June 2025); Berkeley, City of. 2002. Berkeley General Plan Urban Design and Preservation Element. Available: https://berkeleyca.gov/sites/default/files/documents/13_Urban%20Design%20and%20Preservation%20Element-FINAL.pdf. (accessed July 2025).

Compiled by Rincon in 2025.

Berkeley Climate Action Plan

The Berkeley CAP contains 30 goals to reduce communitywide and municipal GHG emissions in order to achieve the City's target of reducing emissions by 80 percent below 2000 levels by 2050. The measures included in the CAP cover the main sectors of GHG emissions including transportation and land use, building energy usage, and waste reduction and recycling. The measures applicable to the proposed project are summarized in Table 3.6-8. As shown therein, the proposed project would be consistent with applicable GHG reduction measures in the Berkeley CAP.

Table 3.6-8 Project Consistency with Berkeley Climate Action Plan Measures

Recommended Goals	Project Consistency
Sustainable Transportation and Land Use	
Goal 2: Increase and enhance urban green and open space, including local food production, to improve the health and quality of life for residents, protect biodiversity, conserve natural resources, and foster walking and cycling.	**Consistent**: The proposed project would reconstruct the pier and renovate the surrounding area, which would include improvements to streets, sidewalks, pathways, and trails. These improvements would also include the extension of the Bay Trail. The proposed project would also install additional recreational amenities adjacent to a portion of the proposed Bay Trail Extension such as picnic tables, benches/seating, bicycle parking, and/or interactive sculptural elements. These improvements would encourage active transportation and alternative modes of travel to the project site, which would reduce vehicle trips and GHG emissions.
Goal 5: Accelerate Implementation of the City's Bicycle & Pedestrian Plans	**Consistent**: The proposed project would involve improvements to streets, sidewalks, pathways, and trails in the area surrounding the pier. In addition, the proposed project would also install bike lockers and bike racks. These improvements would provide safe and accessible routes to the pier and recreational area, which would support bicycle and pedestrian access to the pier, thereby reducing vehicle trips and GHG emissions.

Recommended Goals	Project Consistency
Goal 6: Make public transit more frequent, reliable, integrated and accessible	**Consistent.** The proposed project would involve transit improvements, such as a cycle track and bus infrastructure. The bus infrastructure associated with the proposed project would allow for future expansion of AC Transit service. In addition, the new electric ferry service would increase high-quality transit options and reliability for trips across the bay. Therefore, the proposed project would not conflict with this measure.
Goal 8: Encourage the use of low-carbon vehicles and fuels.	**Consistent:** The proposed project would install approximately 43 EV charging stations, which would expand the support for clean vehicle use within the region. The proposed project would also employ ferry vessels powered by electricity instead of gasoline or diesel. These project features would encourage utilization of fuels from renewable sources, which would minimize GHG impacts.
Building Energy Use	
Goal 1: Make green building business as usual in the new construction & remodel market.	**Consistent:** The proposed project would involve the installation of a pre-fabricated restroom building that would be all electric and use energy-efficient lighting and plumbing fixtures, consistent with latest CALGreen and Building Energy Efficiency Standard requirements. Therefore, the proposed project would be consistent with this measure.
Goal 5: Increase Energy Efficiency and Renewable Energy Use in Public Buildings.	**Consistent.** The proposed project would include one public building, a pre-fabricated restroom building that would be all electric and use energy-efficient lighting and plumbing fixtures, consistent with latest CALGreen and Building Energy Efficiency Standard requirements. Therefore, the proposed project would be consistent with this measure.

Source: Berkeley, City of, 2009. Berkeley Climate Action Plan. Compiled by Rincon in 2025.

SUMMARY

Overall, impacts related to generation of GHG emissions and consistency with GHG reduction plans and regulations would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Energy Consumption

Significance Criterion c:	Would the proposed project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact GHG-2 THE PROPOSED PROJECT WOULD NOT RESULT IN WASTEFUL OR UNNECESSARY ENERGY CONSUMPTION DURING PROJECT CONSTRUCTION AND OPERATION, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

During construction of the proposed project, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site. Construction equipment would be maintained to applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. Construction contractors would also be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes, which would minimize unnecessary fuel consumption.

In addition, construction worker and vendor trips as well as hauling trips to and from the project site would also contribute to fuel consumption during project construction. Demolished material and excavated soil would be hauled offsite while imported soil would be hauled onto the site. In addition to CALGreen, which requires 65 percent of construction debris to be diverted from landfills, the project would be subject to the City of Berkeley's Construction and Demolition Debris Salvage and Recycling Ordinance (Ordinance No. 7,156-N.S.), as discussed above in Section 3.6.3, *Regulatory Framework*. This ordinance requires that the project divert 100 percent of concrete and asphalt, 100 percent of excavated soil and land clearing debris (for new construction and on previously undeveloped lots), and at least 50 percent of remaining construction and demolition debris. The City or its contractor(s) would also be required to submit a Waste Diversion Report upon completion of the project to document compliance with these requirements. These practices would result in efficient use of the energy necessary to construct the proposed project.

Furthermore, in the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. Overall, the construction activities would be temporary and typical of those associated with development throughout the region. Therefore, the proposed project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and construction impacts related to energy consumption would be less than significant.

Operation

Operation of the proposed project would contribute to regional energy demand by consuming electricity. Electricity would be used for lighting, water and wastewater conveyance, and electric vehicle and ferry operation, among other purposes. As the proposed project is designed to be all-electric, natural gas would not be utilized as part of project operation.

The proposed project would result in an overall reduction in VMT, through the conversion of automobile trips from Berkeley to San Francisco, into ferry trips. Because the project would reduce

overall VMT, it would also reduce the demand for gasoline and diesel fuel, compared to existing conditions. For this reason, operation of the proposed project would not result in an inefficient consumption of fossil fuel. EMFAC 2021 estimates that approximately 9 percent of vehicles in Alameda County will be electric vehicles in 2028. Therefore, it is assumed that 9 percent of the vehicles accessing the site and using the ferry would be electric vehicles. Fuel consumption estimation is based on CalEEMod emission factors, which consider the use of electric vehicles.

The proposed project would require 19,428,646 kWh per year of electricity to power lighting, the restroom building, and electric ferry vessels during project operation.[54] However, the proposed project would be built to meet the standards set in the latest iteration of the CBC (CCR Title 24), which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. California's CALGreen standards (CCR Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. In addition, the 2022 Building Energy Efficiency Standards (CCR Title 24, Part 6) require newly constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the operation of buildings does not result in wasteful, inefficient, or unnecessary consumption of energy. Pursuant to CALGreen, all plumbing fixtures used for the proposed project would be high-efficiency fixtures, which would minimize the potential for the inefficient or wasteful consumption of energy related to water and wastewater. The proposed project would be served by PG&E, which is required to increase its share of renewable energy procurement pursuant to SB 100 requirements. Utilities are required under SB 100 to provide 60 percent of electricity from renewable sources by 2030 and 100 percent of electricity from renewable sources by 2045. However, Ava Community Energy, which provides energy to the project site, will generate energy from only renewable sources by 2030. The proposed project would also provide EV charging stations, which would promote use of renewable energy for transportation. Therefore, project operations would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and operational impacts related to energy consumption would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

[54] See Appendix B, Assumptions for Fery Energy Consumption and CalEEMod Modeling outputs for project operations for other electrical consumption estimates.

Energy Efficiency and Renewable Energy Standards Consistency

Significance Criterion d:	Would the proposed project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Impact GHG-3 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Policy consistency is limited to operational energy use discussion. No proposed project construction impact related to consistency with an applicable energy or energy efficiency plan would occur.

Operation

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include SB 100, the 2022 California Green Building Standards Code (CALGreen or Title 24 Part 11) and local amendments thereto, and the 2022 California Building Energy Efficiency Standards (Title 24 Part 6) and local amendments thereto, as well as the Berkeley General Plan and Climate Action Plan. SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program and requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. CALGreen (Title 24 Part 11) institutes mandatory minimum environmental performance standards for all ground-up new non-residential and residential structures and major renovations.[55] In addition, the California Building Energy Efficiency Standards (Title 24 Part 6) establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. CCR Title 24 (Parts 6 and 11) is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New structures and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

CONSISTENCY WITH STATE RENEWABLE ENERGY PLANS

Berkeley is part of the Ava Community Energy community choice aggregate, which provides electricity primarily from clean, renewable sources. Berkeley would continue to reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by Ava Community Energy continues to increase to comply with SB 100 requirements for electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The proposed project includes all-electric ferry and EV charging components to reduce energy use and increase production of renewable energy, as discussed further below and would, therefore, align with the overall intent of SB 100 and be consistent with this State renewable energy plan.

[55] Major renovations are defined as changes to the building envelop or changing equipment, including different components and entire systems.

CONSISTENCY WITH STATE ENERGY EFFICIENCY PLANS

The City of Berkeley has adopted State energy conservation plans, including CALGreen (Title 24 Part 11), pursuant to Berkeley Municipal Code Title 19.[56] Additionally, goals and policies from Chapter 4: Building Energy Use Strategies, and corresponding policies of the Berkeley CAP call for an increase in the use of energy conservation features in new and existing development projects, such as obtaining energy from renewable energy sources and installing low-emission equipment. Therefore, operation associated with the proposed project would be designed to comply with the energy source standards of the CALGreen and demonstrate compliance with the CALGreen Standards by implementing sustainability and energy efficiency measures such as high-efficiency lighting, low-flow water fixtures, and water efficient landscaping and irrigation systems. During plan check, the City building department will ensure that new project plans include all required Title 24 energy-efficiency standards.

CONSISTENCY WITH LOCAL ENERGY EFFICIENCY PLANS

Berkeley General Plan

The Transportation Element, Environmental Management Element and Urban Design and Preservation Element of the Berkeley General Plan contain policies and actions aimed at reducing energy consumption or promoting energy efficiency. As shown in Table 3.6-7, the proposed project would be consistent with these policies and actions.

Berkeley Climate Action Plan

The Berkeley CAP contains 30 goals to reduce communitywide and municipal GHG emissions in order to achieve the City's target of reducing emissions by 80 percent below 2000 levels by 2050. The measures included in the CAP cover transportation and land use, building energy usage, and waste reduction and recycling. The measures applicable to the proposed project are summarized in Table 3.6-8. As shown therein, the proposed project would be consistent with applicable energy reduction or energy efficiency measures in the Berkeley CAP.

SUMMARY

Proposed project operation would decrease non-renewable fuel consumption and energy consumption through new transportation and recreational infrastructure, which would install high-efficiency all-electric ferry vessels and EV charging spaces. These facilities would reduce energy usage and maximize energy efficiencies through design and enforcing the State's energy conservation standards. These actions are consistent with the goals and policies established by SB 100 and CALGreen. During plan check, the City building department would ensure that final project plans include all required Title 24 energy-efficiency standards. Therefore, operational impacts related to consistency with energy efficiency or renewable energy standards would be less than significant.

Mitigation Measures

No mitigation would be required.

[56] Berkeley, City of. 2024. Berkeley Municipal Code Title 19, Chapter 19.37 – Adoption of California Green Building Standards Code. https://berkeley.municipal.codes/BMC/19.37.010 (accessed October 2025).

Level of Significance

Less Than Significant

3.6.5 Cumulative Impacts

GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the GHG emissions from past, present, and future projects and activities have contributed, currently are contributing, and would contribute to global climate change and its associated environmental impacts.

The geographic scope for the generation of greenhouse gas emissions is global. The geographic scope for consistency with applicable plans is the State, given that the project would be subject to an applicable plan from the State of California (2022 Scoping Plan). The geographic scope of the cumulative energy analysis is the PG&E/Ava Community Energy service areas.

GHG Emissions Generation and Plans Consistency

As described in Impact GHG-1, the proposed project would result in an overall reduction in GHG emissions. Therefore, the proposed project would not contribute to a cumulative impact related to the generation of greenhouse gas emissions.

Cumulative development would generate GHG emissions from vehicle trips, electrical and water use, and other sources. Plans and projects throughout the State are required to adhere to applicable GHG emissions reduction laws, programs, and policies such as SB 32 and AB 1279. As discussed under Impact GHG-1, the proposed project would be consistent with the 2022 Scoping Plan, Plan Bay Area 2050, Berkeley General Plan, and the Berkeley CAP. Given that other cumulative projects in the State of California would be required to adhere to the 2022 Scoping Plan, given that other cumulative projects in Berkeley would be required to be consistent with the Berkeley CAP, and given that the project would result in an overall reduction in GHG emissions, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to consistency with plans to reduce GHG emissions.

Energy Consumption and Plans Consistency

Cumulative development would increase demand for energy resources. However, new iterations of the California Building Energy Efficiency Standards and CALGreen would require increasingly more energy efficient appliances and building materials that reduce energy consumption in new development. In addition, vehicle fuel efficiency is anticipated to continue improving through implementation of the existing Pavley Bill regulations under AB 1493.

As described under Impact GHG-2, the proposed project would be constructed in accordance with the latest California Building Energy Efficiency Standards and CALGreen. The proposed project would also involve improvements to streets, sidewalks, pathways, and trails in the area surrounding the pier. In addition, the implementation of the proposed project would facilitate public transit, such as facilitating the new electric ferry service and providing infrastructure to allow for AC Transit expansion. These project features would encourage alternative modes of travel to the project site, reduce VMT and energy consumption from non-renewable sources, and encourage reliance on renewable energy sources.

Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to energy.

Overall Level of Cumulative Significance

Less Than Significant

3.7 Hazards and Hazardous Materials

3.7.1 Introduction

This section describes the existing setting with respect to hazards and hazardous materials and evaluates the potential impacts associated with exposure to hazards and hazardous materials from implementation of the proposed project. Information in this section is based on information from the California Department of Toxic Substances Control (DTSC), California State Water Resources Control Board (SWRCB), California's Department of Forestry and Fire Protection (CalFire), Alameda County Airport Land Use Commission, Berkeley General Plan, and Berkeley Local Hazard Mitigation Plan. In addition, this section incorporates findings from the Geotechnical Report prepared for the project by ENGEO dated December 2025, which informed the characterization of soil conditions at the project site. This section includes a discussion of wildland fires, and Section 3.15*, Effects Found Not to be Significant* includes a discussion of wildfire impacts, as it pertains to being located in or near a State Responsibility Area or lands classified as very high fire hazard severity zones.

A reconnaissance of the project site was conducted by Rincon on September 19, 2024, to observe and gain information on the existing conditions at the site. As part of this field survey, any obvious indicators of prior or current existence of hazardous materials were identified and properties were reviewed to identify if they are likely to use, store, generate, transport, or dispose of hazardous materials. There was no access to inspect the interior of buildings within the project site for the reconnaissance, and access was also limited by locked buildings and ongoing business operations. However, the project is not expected to affect any of these existing buildings. The survey was conducted according to the following methodology:

- Observing the project site, including the existing pier from public thoroughfares;
- Observing the adjacent properties from public thoroughfares;
- Walking the project site;
- Observing the exterior of the structures; and
- Observing the project site from paved roads and sidewalks.

3.7.2 Environmental Setting

This description of existing conditions focuses on hazards related to hazardous materials with the potential to be encountered on the project site, wildfire, and emergency response and evacuation. Seismic and soil stability hazards are discussed in Section 3.5, *Geology and Soils*, tsunami and other flooding-specific hazards are discussed in Section 3.8, *Hydrology and Water Quality*, and transportation design and queueing hazards are discussed in Section 3.12, *Transportation*.

Definition of Hazards

A hazard is a situation that poses a level of threat to life, health, property, or the environment. Hazards can be dormant or potential, with only a theoretical risk of harm. However, once a hazard becomes active, it can create an emergency. A hazardous situation that has already occurred is called an incident. Emergency response is action taken in response to an unexpected and dangerous occurrence in an attempt to mitigate its impact on people, structures, or the environment. Emergency situations can range from natural disasters to exposure to a release of hazardous materials and related transportation incidents.

Definition of Hazardous Materials and Hazardous Waste

The term "hazardous material" has different definitions for different regulatory programs. For the purpose of this EIR, the term "hazardous materials" refers to both hazardous materials and hazardous waste. The California Health and Safety Code Section 25501(n)(1) defines a hazardous material as any material that "because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.

A material is hazardous if it exhibits one or more of the following characteristics: toxicity, ignitability, corrosivity, and reactivity. These types of hazardous materials are defined below:

- **Toxic Substances.** Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substances involved and is chemical-specific). Carcinogens, substances that can cause cancer, are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).
- **Ignitable Substances.** Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.
- **Corrosive Materials.** Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).
- **Reactive Materials.** Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Soil and groundwater can become contaminated by hazardous material releases in a variety of ways, including permitted or illicit use, accidental or intentional disposal or spillage, or by transportation and/or generation of the hazardous material if it is not properly handled. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming dumping grounds for unwanted chemicals. The largest and most contaminated of these sites became Superfund sites, so named for their eligibility to receive cleanup money from a federal fund established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories.

Numerous smaller properties have been designated as contaminated sites. Often these are gas station sites where leaking underground storage tanks (LUSTs) were upgraded under a federal requirement in the late 1980s. Another category of sites that may have some overlap with the types already mentioned is "brownfields" – previously used, often abandoned, sites that due to actual or suspected contamination are undeveloped or underused. DTSC maintains lists of known brownfields sites. These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated.

Presence of Hazardous Materials

Hazardous Materials Release Sites at and Proximate to Project Site

California Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to maintain an updated Hazardous Waste and Substances Sites List, also known as the Cortese List.[1] This list includes specific types of hazardous waste and substance sites, such as hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code and all land designated as hazardous waste property or border zone property pursuant to Article 11 of Chapter 6.5 of Division 20, Section 25220 et seq. of the Health and Safety Code.

The locations where hazardous materials are used, stored, treated, and/or disposed of may come to the attention of regulatory agencies through various means, including licensing and permitting and associated reporting requirements, enforcement actions, and anonymous tips. Anonymous tips may include complaints from the public regarding odors, air quality, or health concerns which are filed with regulatory agencies such as the CalEPA,[2] DTSC,[3] Bay Area Air District[4], and/or the Alameda County Environmental Health Department.[5] These complaints may trigger investigations, compliance enforcement actions, or additional monitoring to ensure compliance with hazardous materials regulations. To the extent possible, the locations of these businesses and operations are recorded in database lists maintained by various Federal, State, and local regulatory agencies. In addition, Federal, State, and local agencies enforce regulations applicable to hazardous waste generators and users. The Alameda County Environmental Health Department, Hazardous Materials Division created the Hazardous Materials Business Plan program, which is designed to prevent or minimize harm to public health and the environment from a release or threatened release of hazardous material.

Permitted uses of hazardous materials include those facilities that use hazardous materials or handle hazardous wastes in accordance with current hazardous materials and hazardous waste regulations. The use and handling of hazardous materials from these sites is considered low risk, although there can be instances of unintentional chemical releases. In such cases, the site would be tracked in the environmental databases as an environmental case. Permitted sites without documented releases are, nevertheless, potential sources of hazardous materials in the soil and/or groundwater due to accidental spills, incidental leakage, or spillage that may have gone undetected. Some facilities are permitted for more than one hazardous material use and, therefore, could appear in more than one database.

The potential to encounter hazardous materials in soil and groundwater is generally based on a search of Federal, State, and local regulatory databases that identify permitted hazardous materials use, environmental cases, and spill sites. The City of Berkeley's Toxics Management Division (TMD) regulates businesses that handle hazardous materials and generate hazardous wastes in Berkeley.[6] The DTSC EnviroStor database contains information on properties in California where hazardous

[1] CalEPA. "Cortese" list of sites subject to Corrective Action pursuant to Health and Safety Code 25187.5. Available: https://www.calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/. (accessed June 2025).
[2] CalEPA. 2025. About the Environmental Complaint System. https://calepa.ca.gov/enforcement/complaints/ (accessed December 2025).
[3] DTSC. 2024. Complaint Response Policy. Available: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/07/DTSC-OP-0003_Haz_Waste_Admin_Complaints_Policy.pdf (accessed December 2025).
[4] Bay Area Air District. 2022. Odors and Complaints FAQ. Available: https://www.baaqmd.gov/contact-us/air-quality-faqs/odors-and-complaints (accessed December 2025).
[5] Alameda County Environmental Health Department. 2025. General Complaint Form. Available: https://deh.acgov.org/complaint-form.page (accessed December 2025).
[6] Berkeley, City of. Hazardous Materials Business Plan. 2026. Available: https://berkeleyca.gov/doing-business/operating-berkeley/hazardous-materials-business-plan. (accessed January 2026).

substances have been released or where the potential for a release exists.[7] The SWRCB GeoTracker database contains information on properties in California for sites that require cleanup, such as LUSTs, which may impact, or have potential impacts, to water quality, with emphasis on groundwater.[8]

There are no Cortese-listed sites within or adjacent to the project site, based on the review of the following databases. Specifically, according to databases of hazardous material sites maintained by the DTSC (EnviroStor)[9] and the SWRCB (GeoTracker)[10], no hazardous material sites or release cases are located within the project site; however, there are three nearby closed release cases located within 580 to 1,300 feet from the easternmost portion of the project site, across Interstate 80 (I-80). Table 3.7-1 shows the project site in relation to these release cases, which are all LUST cleanup sites and are listed in Table 3.7-1.

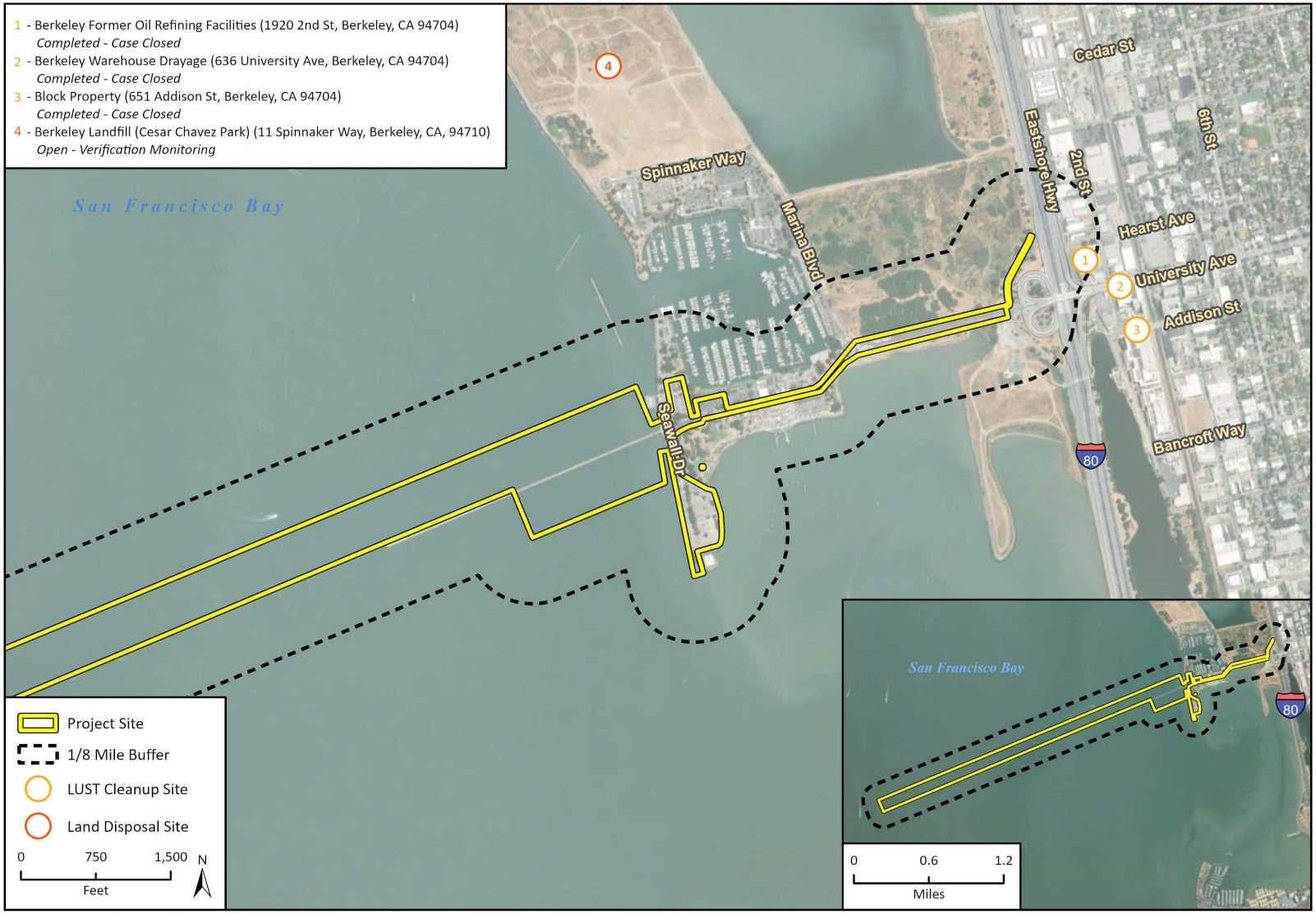
Table 3.7-1 Known Hazardous Materials Sites on Nearby Properties

Figure/Site Number	Site Name/Address	Case Type	Lead Oversight Agency	Case Status	Site Proximity to and Direction from Project Site	Site Summary
Figure 3.7-1 Site 1	Berkeley Former Oil Refining Facilities 1920 2nd Street	LUST Cleanup Site	RWQCB	Closed as of 2019	Approx. 580 feet east of project site	Impacted groundwater
Figure 3.7-1 Site 2	Berkeley Warehouse Drayage 636 University Avenue	LUST Cleanup Site	RWQCB	Closed as of 1994	Approx. 1,000 feet east of project site	Gasoline-impacted soil
Figure 3.7-1 Site 3	Block Property 651 Addison Street	LUST Cleanup Site	RWQCB	Closed as of 1999	Approx. 1,300 feet southeast of project site	Gasoline-impacted soil

Approx. = Approximately; LUST = Leaking Underground Storage Tank; RWQCB = San Francisco Bay Regional Water Quality Control Board

[7] DTSC. 2025. EnviroStor. Available: https://www.envirostor.dtsc.ca.gov/public/ (accessed June 2025).
[8] SWRCB. 2025. GeoTracker. Available: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=berekely+marina (accessed June 2025).
[9] DTSC. 2025. EnviroStor. Available: https://www.envirostor.dtsc.ca.gov/public/ (accessed June 2025).
[10] SWRCB. 2025. GeoTracker. Available: https://geotracker.waterboards.ca.gov/ (accessed June 2025).

Figure 3.7-1 Existing Hazardous Materials Sites within and Proximate to the Project Site



Imagery provided by Esri and its licensors © 2026. Additional information provided by GeoTracker, 2025.

23-15427 EPS Haz
Fig 2 Sites of Hazardous Materials Concern

Hazardous Waste Landfills Proximate to Project Site

Landfills have the potential to release methane gas that may present an explosion risk. As shown in Figure 3.7-1, one former landfill is located more than 2,000 feet from the project site.

The former Berkeley Landfill (Currently César E. Chávez Park) is located more than 2,000 feet north of the project site along Spinnaker Way and is bounded by the San Francisco Bay on the west, north, and east, and the Berkeley Marina on the south. The former landfill is designated as Facility No. 01-AC-0001 in the California Department of Resources Recycling and Recovery (CalRecycle) Solid Waste Information System Database.[11] Initially permitted by the California Integrated Waste Management Board in 1978, the landfill was authorized to receive up to 180 tons per day (67,000 tons per year) of residential and commercial refuse, plant debris, and demolition debris. Historical records indicate that waste placement began as early as 1961, comprising a mixture of municipal, commercial, and industrial solid waste, which occurred until 1983. Between 1983 and 1985, soil, asphalt, concrete, and materials containing a combination of subgrade soil, concrete and/or asphalt were also accepted as waste with Regional Water Quality Control Board (RWQCB) approval. After 1985, clean fill was imported as cover. The landfill was formally closed in phases during the period of 1981 through 1989 pursuant to the California Code of Regulations Title 14 and Title 23 requirements in effect at the time**.** Today, the landfill site is developed as César E. Chávez Park and continues to be subject to post-closure monitoring and maintenance. Oversight of these activities is provided through various programs administered by the RWQCB, CalRecycle, and the Bay Area Air District.

Oil & Gas Wells

According to California Geologic Energy Management Division online oil/gas well records, the project site is not located within an oil or gas field, and there are no oil or gas wells located within one-eighth of a mile of the project site.[12]

Hazardous Material Pipelines

According to the United States Department of Transportation's Pipeline and Hazardous Materials Safety Administration Online National Pipeline Mapping System database, there are no natural gas transmission or hazardous material liquid pipelines located within the project site or within one-eighth of a mile of the project site.[13]

Per- and Polyfluoroalkyl Substances

According to the SWRCB online polyfluoroalkyl substances (PFAS) database, there are no potential sources of PFAS at the project site, given that no airports, bulk fuel terminals/refineries, chrome plating facilities, or wastewater treatment facilities are located within the project site or within 1,000 feet of the project site. The closed Berkeley landfill is located approximately 2,000 feet north of the project site and is not currently subject to PFAS orders from SWRCB.[14]

[11] California Department of Resources, Recycling, and Recovery. 2025. Solid Waste Information System (SWIS) Facility/Site Summary: Berkeley Landfill (01-AC-0001). Available: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search (accessed March 2025).
[12] California Department of Conservation Geologic Energy Management Division. 2025. Well Finder. Available: https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx (accessed March 2025).
[13] United States Department of Transportation. 2025. National Pipeline Mapping System Public Map Viewer. Pipeline and Hazardous Materials Safety Administration (PHMSA). Available: https://www.npms.phmsa.dot.gov/PublicViewer/ (accessed March 2025).
[14] SWRCB. 2025. GeoTracker PFAS Map. Available: https://geotracker.waterboards.ca.gov/map/pfas_map (accessed June 2025).

Presence of Contaminants in Fill, Soil, Sediment, and Water

Fill Contaminants at the Project Site

According to historical topographic maps provided by the United States Geological Survey, the project site and adjacent land was mainly undeveloped land, roads, creeks/canals, and open water from at least 1895 to 1915. According to aerial photographs provided by Berkeley Historical Society, commercial/industrial buildings were developed east of the project site by 1930 to 1952, and fill material appears to have been placed in several areas along the Berkeley Marina, west of present-day I-80. By 1965, additional fill material appears to have been placed in the northeast portion of the Berkeley Marina, north of the project site, creating a configuration similar to present day, and commercial/industrial buildings were developed in this area from the late 1960's to the late 1970's. Adjacent and nearby property uses appear to have remained similar to present day since at least the late 1970's, including the former Berkeley Landfill that ceased operations in the mid 1980's and was developed into North Waterfront Park by 1991 and renamed César E. Chávez Park in 1994.

Based on historical records (aerial photographs and topographic maps), land within the project site, south of University Avenue was once open water, which has been filled with dredge spoils, as well as fill materials and soil of unknown origin from the 1950s through the 1980s. Artificial fill is considered heterogeneous, contains debris, and placed without engineered compaction. Fill material within the project site and adjacent land may contain various contaminant concentrations exceeding State regulatory thresholds, and waste generated from the disturbance of soil at these locations may need to be regulated as a hazardous waste.

Soil Contaminants at the Project Site

Aerially deposited lead (ADL) was historically deposited by cars burning leaded gasoline and is often found in the soil adjacent to highways and roads. Elevated concentrations of ADL may be present along existing roadways, including those near the eastern portion of the project site, near I-80. Soil along the eastern boundary of the project site may contain concentrations of lead exceeding state regulatory thresholds, and any waste generated from the disturbance of soil in these locations may be regulated as a non-hazardous or hazardous waste. Soil within the project site may be contaminated with ADL due to the proximity of I-80, located adjacent to the eastern boundary of the project site. The highway location in relation to the project site is shown in Figure 3.7-1.

According to the Geotechnical Report prepared by ENGEO dated December 16, 2024, soil corrosion testing was completed on two samples of soil located at the intersection of University Avenue and Sewall Drive.[15] Based on the resistivity measurements and chloride ion concentration from the collected samples, ENGEO classified the soil as severely corrosive to buried metal and concrete per ASTM D1498, D4972, G57, and D4327 standards.[16]

Sediment and Water Contaminants at the Project Site

Sediments in bays and estuaries are commonly impacted by a variety of pollutants originating from multiple sources, including ship fuel releases and industrial, agricultural, municipal wastewater, and storm water discharges. According to the 2021 San Francisco Estuary Institute report, there are several contaminants present in Bay Area sediments that are routinely found at elevated

[15] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[16] ASTM. 2020. Standard Test Method for Measurement of Soil Resistivity. Available: https://www.astm.org/g0057-20.html (accessed March 2025).

concentrations, above sediment quality guidelines.[17] These chemicals include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons, pesticides (dieldrin, chlordane), and several metals (copper, mercury, lead, and zinc). Based on the project site location within and adjacent to artificial fill lands, elevated concentrations of other hazardous materials may also be present in the sediments.

In 2025, sediment sampling and analysis was conducted within five dredge units in the project vicinity in accordance with the Inland Testing Manual,[18] site-specific requirements for proposed reuse sites, and United States Army Corps of Engineers Dredged Material Management Office protocols.[19] Sediment samples obtained in this analysis were found to contain metals, organochlorine pesticides, polycyclic aromatic hydrocarbons, PCBs, and dioxins/furans. However, concentrations of these contaminants did not exceed State or federal hazardous waste criteria. Although contaminants were present, the concentrations of such contaminants indicate that sediments are not likely to pose significant hazards if managed according to reuse site requirements.

Presence of Contamination in Transformers, Utility Poles, and Pier Piles

Contamination in Transformers and Utility Poles at the Project Site

Within the project site, there is a pad-mounted transformer, located east of Seawall Drive and that may contain PCBs. PCBs are regulated by the United States Environmental Protection Agency (USEPA) under the Toxic Substances Control Act, which governs the use, cleanup, and disposal of PCBs, as discussed in Section 3.7.3, *Regulatory Framework*, below.

Contamination in Pier Piles at the Project Site

Within the project site, there are pier pilings supporting the existing pier that may be treated with chemicals, including creosote for preservation and durability.

Proximity to Schools

School locations require consideration because children are particularly sensitive to hazardous materials exposure. Additional protective regulations apply to projects that could use or disturb potentially hazardous products near or at schools. The California Public Resources Code Section 21151.4 and California Government Code Section 15186(b) require projects that would be located within a quarter mile of a school and might reasonably be expected to emit or handle hazardous materials to consult with the school district regarding potential hazards. The closest school is located approximately one half mile east of the project site, and there are no schools located within a quarter mile of the project site.

Airport Safety Zone Proximity

Oakland International Airport is the closest airport to the project site, located approximately 11 miles southeast of the project site. Oakland International Airport provides commercial and general

[17] San Francisco Estuary Institute. 2021. Sediment for Survival: A Strategy for the Resilience of Bay Wetlands in the Lower San Francisco Estuary. Available: https://www.sfei.org/sites/default/files/biblio_files/Sediment%20for%20Survival%20042121%20med%20res.pdf (accessed July 2023).
[18] USEPA/USACE. 1998. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual – Inland Testing Manual. U.S. Environmental Protection Agency/U.S. Army Corps of Engineers. EPA-823-B-94-002. U.S. Environmental Protection Agency, Office of Water (4305).
[19] Pacific EcoRisk. 2025. Characterization of the Sediment from Berkeley Water Transportation Pier Ferry Project: Results of Sediment Sampling and Analysis. September 19.

aviation access to the national air transportation system in support of business and leisure travel. Aircraft flight operations are regulated by the Federal Aviation Administration. The project site is located outside of the Oakland International Airport's safety zone and noise contours delineated within the Alameda County Airport Land Use Commission.[20]

Emergency and Evacuation Routes/Access for the Project Site

The Berkeley Disaster Preparedness and Safety Element establish and maintain an effective emergency response program that anticipates the potential for disasters; maintains continuity of life-support functions during an emergency; and institutes community-based disaster response planning, including businesses, non-governmental organizations, and neighborhoods.[21] The main routes into and out of the project site and that would most likely be used as evacuation routes are University Avenue and I-80.

Wildfire Hazard Area Designations at and Near the Project Site

The California Department of Forestry and Fire Protection, also known as CalFire, maintains mapping of Fire Hazard Severity Zones. The project site and adjacent land are not located in or near a State Responsibility Area (SRA). The closest SRA is in the Berkeley hills, more than 4 miles east of the project site.[22] The project site and adjacent land are not located in or near a Very High Fire Hazard Severity Zone for a Local Responsibility Area or LRA. The closest Very High Fire Hazard Severity Zone in an LRA is located just east of the UC Berkeley Campus, more than 3 miles east of the project site.[23]

Wildfire-conducive Conditions at the Project Site

Existing Vegetation

Due to the substantial open space areas and associated vegetation and wildlife habitats throughout the State, California is subject to fire hazards. Grassland or other vegetation in California is easily ignited, particularly in dry seasons. Wildfire is a serious hazard in high dry fuel load areas, particularly near areas of natural vegetation. The project site is located near Shorebird Park, which contains open space and vegetation. However, the project site is located east, north, and south of the San Franisco Bay, creating a buffer for wildfire-conductive conditions.

As discussed in greater detail in Section 3.3, *Biological Resources*, vegetation is mostly absent from both developed and riprap areas of the project site, with the exception of sparse landscaping and ruderal vegetation in developed areas, and pickleweed in riprap areas. The coyote brush scrub vegetation community is on filled Baylands and is dominated by coyote brush (*Baccharis pilularis*), with small scrubby coast live oaks (*Quercus agrifolia*), American bird's foot trefoil (*Acmispon americanus*), and seaside wooly sunflower (*Eriophyllum staechadifolium*), as well as non-native ornamentals. Ruderal areas are primarily found along the edges of roadways and trails within the project site and have been heavily disturbed or altered such that natural vegetation has largely been

[20] Alameda County Airport Land Use Commission. 2025. Alameda County ALUC Map. Available: https://www.arcgis.com/home/item.html?id=fe68a494d7cd4d629a75812d0ed6af08 (accessed March 2025).
[21] Berkeley, City of. 2002. General Plan: Berkeley Disaster Preparedness and Safety Element. Berkeley, CA. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf. (accessed March 2025).
[22] CalFire. 2025. Fire Hazard Severity Zones in State Responsibility Area. https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008 (accessed February 2025).
[23] CalFire. 2025. City of Berkeley – Alameda County Local Responsibility Area Fire Hazard Severity Zones. As Identified by the State Fire Marshall. February 24. https://calfire.app.box.com/s/wahuw9ny7cgn89xpxh7092ur50r1pwvj/file/1785859903146. (accessed February 2026)

removed or are colonized by weeds and disturbance-tolerant natives, such as English plantain (*Plantago lanceolata*), coyote brush, and non-native annual grasses such as wild oats (*Avena* spp.). Landscaped areas make up most of the vegetation within the project site, and consists of non-native annual grasses, lawns, and ornamental trees and shrubs. These land covers and vegetation communities are shown in Figure 3.3-1.

Existing Slope and Aspect

Wildfire is also a serious hazard in areas with steep slopes, since fires tend to burn more rapidly on steeper terrain. The existing slope across the project site is predominantly flat. Its engineered shoreline has produced terrain with minimal elevation and a primarily west-facing aspect oriented toward the San Francisco Bay.[24] The project site is also located outside of a State-designated earthquake-induced landslide hazard zone.

Existing Weather and Atmospheric Conditions

Wind, temperature, and relative humidity are the most influential weather elements in fire behavior and susceptibility.[25] Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher. Extreme wildfire events are expected to increase in frequency with the effects of increased global temperature, although changes in specific fire-prone areas are difficult to predict with any certainty. In particular, Alameda County is experiencing longer and drier summer conditions. Historically, Berkeley's climate has been characterized by cool, wet winters with annual rainfall averaging 26.74 inches and approximately 85 percent of precipitation occurring between November and March. Warm, dry summers occurring from June to October, with an average high of 75 degrees Fahrenheit are also typical for Berkeley.[26]

Existing Fuel and Energy Lines

Wildfire is more likely in areas where electric power lines are located above ground and could ignite vegetation where it comes into contact. Wildfire could also spread in areas of fuel lines, which could fail (whether due to earthquake or error) and ignite a fire. No natural gas transmission or hazardous material liquid pipelines are on the project site.[27]

Historical Fire Incidents

There have been a few instances of fires in and near the Berkeley Waterfront in the past. A search of CalFire Incident Archive from 2016 to 2025 did not show any fires in or near the project site.[28] However, the following two documented fire incidents were identified in recent years.

On July 25, 2021, a fire occurred in McLaughlin Eastshore State Park due to an outdoor cooking accident, burning approximately two acres of brush and wildlife habitat.[29] The incident resulted in

[24] United States Geological Survey. 2021. Oakland West Quadrangle California 7.5-Minute Series. Available: https://ngmdb.usgs.gov/topoview/viewer/#16/37.8653/-122.3117 (accessed August 2025).
[25] National Wildfire Coordinating Group. 2019. S-190: Introduction to Wildland Fire Behavior – Unit 5: Atmospheric Stability, Winds, and Clouds. https://training.nwcg.gov/dl/s190/ILT/s-190-ig05.pdf (accessed February 2026).
[26] Berkeley, City of. 2023. City of Berkeley Community Wildfire Protection Plan. Available: https://berkeleyca.gov/sites/default/files/documents/Community-Wildfire-Protection-Plan_CWPP.pdf (accessed August 2025).
[27] United States Department of Transportation. 2025. National Pipeline Mapping System Public Map Viewer. Pipeline and Hazardous Materials Safety Administration (PHMSA). Available: https://www.npms.phmsa.dot.gov/PublicViewer/ (accessed March 2025).
[28] CalFire. 2025. Current Emergency Incidents: Incidents by Year, 2016-2025. Available: https://www.fire.ca.gov/incidents (accessed June 2025).
[29] Berkeleyside News. 2021. No one injured at brush fire from outdoor cooking near Berkeley Marina. Available: https://www.berkeleyside.org/2021/07/26/outdoor-cooking-berkeley-marina-no-injuries (accessed May 2025).

temporary road closures, including West Frontage Road and University Avenue, and was extinguished within 30 minutes by responding agencies, including the East Bay Regional Park District Fire Department, Berkeley Fire Department, and Berkeley Police Department.[30] A second incident occurred roughly a year later on July 13, 2022, when a boat caught fire near Marina Boulevard and the Virginia Street extension, east of the DoubleTree Hotel. The incident resulted in one fatality and was responded to by the Berkeley Fire Department, Berkeley Police Department, CalFire Arson and Bomb Unit, and the Alameda County Coroner. [31]

3.7.3 Regulatory Framework

Hazardous materials and waste can pose a potential hazard to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Federal, State, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste are in place to prevent unwanted consequences. These regulatory programs are designed to reduce the risk that hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

Federal Regulations

Primary Federal agencies with responsibility for hazardous materials management include the United States Environmental Protection Agency (USEPA), U.S. Department of Labor's Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (USDOT). The major laws enforced by these agencies are described below.

Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976

These acts established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. Congress enacted the Toxic Substances Control Act (TSCA) of 1976, codified in CFR Title 40, to give USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. USEPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk. More specifically, in California, PCBs are regulated by both State (Title 22 of the California Code of Regulations [CCR]) and federal (TSCA) rules. TSCA has banned the manufacture, processing, use, and distribution in commerce of PCBs. TSCA gives USEPA the authority to develop, implement, and enforce regulations concerning the use, manufacture, cleanup, and disposal of PCBs. TSCA also establishes USEPA's Lead Abatement Program regulations, which provide a framework for lead abatement, risk assessment, and inspections. Those performing these services are required to be trained and certified by USEPA.

The Resource Conservation and Recovery Act (RCRA) was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act.

[30] SFGate. 2021. Streets around Berkeley Marina opened after McLaughlin Park fire extinguished. Available: https://www.sfgate.com/news/bayarea/article/Brush-Fire-Prompts-Police-To-Say-Avoid-Marina-Area-16339094.php (accessed May 2025).
[31] CBS News. 2022. Boat fire near Berkeley Marina leaves one dead. Available: https://www.cbsnews.com/sanfrancisco/news/boat-fire-near-berkeley-marina-leaves-one-dead/ (accessed May 2025).

U.S. Environmental Protection Agency

The USEPA is the agency primarily responsible for enforcement and implementation of Federal laws and regulations pertaining to hazardous materials. Applicable Federal regulations pertaining to hazardous materials are contained in the Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws:

1. Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)
2. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act) (42 USC 9601 et seq.)
3. Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136 et. Seq.)
4. Superfund Amendments and Reauthorization Act of 1986 (Public Law 99 499)

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. USEPA provides oversight and supervision for Federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

U.S. Department of Transportation Regulations

USDOT prescribes strict regulations for the safe transportation of hazardous materials, including requirements for hazardous waste containers and licensed haulers that transport hazardous waste on public roads. The Secretary of the USDOT receives the authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act (HMTA), as amended and codified in in 49 U.S. Code (U.S.C.) Section 5101 et seq. The Secretary is authorized to issue regulations to implement the requirements of 49 U.S.C. The Pipeline and Hazardous Materials Safety Administration, formerly the Research and Special Provisions Administration, was delegated the responsibility to write the hazardous materials regulations, which are contained in Title 49 of the CFR Parts 100-180. Title 49 of the CFR, which contains the regulations set forth by the HMTA, specifies requirements and regulations with respect to the transport of hazardous materials. It requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Under the HMTA, the Secretary "may authorize any officer, employee, or agent to enter upon, inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties relate to: (1) the manufacture, fabrication, marking, maintenance, reconditioning, repair, testing, or distribution of packages or containers for use by any 'person' in the transportation of hazardous materials in commerce; or (2) the transportation or shipment by any 'person' of hazardous materials in commerce.

Occupational Safety and Health Act of 1970

The U.S. Department of Labor's OSHA was created to assure safe and healthful working conditions by setting and enforcing standards and by providing training, outreach, education, and assistance. OSHA provides standards for general industry and construction industry on hazardous waste operations and emergency response. The Occupational Safety and Health Act, which is implemented by OSHA, contains provisions with respect to hazardous materials handling. Federal Occupational Safety and Health Act requirements, as set forth in Title 29 of the CFR Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker's right-to-know. OSHA has delegated the authority to administer OSHA regulations to the State of California.

Title 49 of the CFR, which contains the regulations set forth by the Hazardous Materials Transportation Act of 1975, specifies additional requirements and regulations with respect to the transport of hazardous materials. Title 49 of the CFR requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in function and commodity-specific requirements.

Clean Air Act

The Clean Air Act is identified and discussed in the regulatory framework of Section 3.2, *Air Quality*.

Federal Water Regulations

The following regulations are identified and discussed in the regulatory framework of Section 3.8, *Hydrology and Water Quality*:

- Clean Water Act (33 United States Code Section 1251 et seq.)
- Section 401: Water Quality Certification
- Section 402: National Pollutant Discharge Elimination System
- Section 404: Discharge of Dredge and Fill of Waters of the United States
- Section 303: Water Quality Standards and Total Maximum Daily Loads

Federal Disaster Mitigation Act

The Federal Disaster Mitigation Act of 2000 created the framework for state, local, tribal, and territorial governments to engage in hazard mitigation planning to receive varying forms of non-emergency disaster assistance. The Act establishes a national disaster hazard mitigation program aimed at reducing loss of life, property, and disaster assistance costs. It emphasizes the need for identifying risks, implementing measures to reduce losses, and ensuring critical services continue after disasters. The act provides funding to assist states, local, tribal and territorial governments in implementing effective hazard mitigation measures through federal contributions and the hazard mitigation grant program which states may administer, provided they meet certain criteria such as an approved mitigation plan.

National Fire Protection Association

The National Fire Protection Association (NFPA) is a nonprofit organization established in 1896 to create standards and codes for use by local governments, including building codes, hazardous response procedures, and battery energy storage systems (BESS). The following NFPA standards are relevant to safe management battery energy storage systems[32]:

- NFPA 1, Fire Code, Chapter 52;
- NFPA 70 (National Electrical Code), Article 706;
- NFPA 111, Stored Electrical Energy Emergency and Standby Power Systems; and
- NFPA 855, Standard for the Installation of Energy Storage Systems.

[32] National Fire Protection Association. 2025. Energy Storage Systems (ESS) and Solar Safety. Available: https://www.nfpa.org/education-and-research/electrical/energy-storage-systems (accessed August 2025).

Underwriters Laboratories

Underwriters Laboratories (UL Solutions) is a nationally recognized independent organization that provides safety certifications for BESS. The following UL standards are widely accepted to govern BESS safety[33]:

- UL 1973. Batteries for Use in Stationary and Motive Auxiliary Power Applications. Safety standard for modules and battery systems used in stationary energy storage systems.
- UL 9540. Energy Storage Systems and Equipment. Safety standard for energy storage systems used with renewable energy sources such as solar and wind.

Institute of Electrical and Electronics Engineers

The Institute of Electrical and Electronics Engineers (IEEE) is a global technical professional organization that sets widely recognized standards for BESS safety, including the following[34]:

- IEEE 1547. Interconnection requirements for distributed energy resources, including battery energy storage, with the electric power system.
- IEEE C37 Series. Requirements for power system protection including relay testing, protective relay applications, and the performance of protective devices.

State Regulations

Hazardous Materials Transportation

California has adopted U.S. Department of Transportation regulations for the intrastate transport of hazardous materials, which are found in Title 26 of the California Code of Regulations. The state also regulates the movement of hazardous waste both originating in and passing through California.

The California Highway Patrol (CHP) and Caltrans are the primary agencies responsible for enforcing these regulations and responding to transportation-related hazardous materials incidents. CHP oversees labeling, packaging, vehicle inspections, and documentation to prevent leaks and ensure proper response in case of accidents. Caltrans maintains chemical spill response teams at up to 72 locations statewide.

Under California Vehicle Code Section 32000, CHP licenses common carriers that transport over 500 pounds of hazardous materials for hire, or over 1,000 pounds if not for hire, when placarding is required. Hazardous waste packaging must meet performance standards simulating travel conditions, including resistance to water exposure, impact, compression, pressure changes, and temperature extremes.

Senate Bill 1383 (SB 1383) – Maintenance and Operation Standards for BESS

Adopted in 2022, SB 1383 mandates the California Public Utilities Commission (CPUC) to establish and enforce state-level safety standards for the maintenance and operation of BESS located in California. To comply with SB 1383, the California Public Utilities Commission modified General Order 167 to explicitly include BESS facilities under its jurisdiction.

[33] Underwriters Laboratories Solutions. 2025. Your Guide to Battery Energy Storage Regulatory Compliance. Available: https://www.ul.com/resources/your-guide-battery-energy-storage-regulatory-compliance (accessed August 2025).
[34] Underwriters Laboratories Solutions. 2025. Your Guide to Battery Energy Storage Regulatory Compliance. Available: https://www.ul.com/resources/your-guide-battery-energy-storage-regulatory-compliance (accessed August 2025).

California Public Utilities Commission General Order 167

The CPUC ensures access to safe, clean, and affordable utility infrastructure and services throughout California. Enacted on March 13, 2025, CPUC modified General Order 167 to add new safety standards for the maintenance and operation of BESS, as required by SB 1383. The updated General Order 167 requires adherence to new maintenance and operation standards, safety reporting and inspections, and coordination with local emergency agencies. The CPUC also requires that battery storage facility owners must develop emergency response and action plans pursuant to SB 38. Facilities 50 MW and larger are subject to the full scope of GO 167 while smaller facilities may be exempt from certain provisions.

Senate Bill 38 – Emergency Response and Action Plans for BESS

Adopted in 2023, SB 38 amends Section 761.3 of the California Public Utilities Code to require that all battery energy storage facilities in California develop and implement Emergency Response and Emergency Action Plans in coordination with local emergency management agencies, Certified Unified Program Agencies (CUPAs), and local first responder agencies to be submitted to the county and/or city where the facility is located. These plans must cover the entirety of the BESS facility, establish procedures for equipment malfunction, include safety protocols for surrounding communities, and define notification procedures with local emergency agencies.

Department of Toxic Substances Control

As a department of the CalEPA, the DTSC is the primary agency in California that regulates hazardous waste, oversees cleanup of existing contamination by responsible parties, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

The DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in CCR Title 22. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

California Occupational Safety and Health Act – California Labor Code, Section 6300 et seq.

The California Occupational Safety and Health Act of 1973 addresses California employee working conditions, enables the enforcement of workplace standards, and provides for advancements in the field of occupational health and safety. The Act also created the California Occupational Safety and Health Administration (CalOSHA), the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. CalOSHA's standards are generally more stringent than federal regulations. Under the former, the employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure. The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. At sites known or suspected to be contaminated by hazardous materials, workers must have training in hazardous materials operations and a Site Health and Safety Plan must be prepared, which establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

California Health and Safety Code, Division 20, Chapter 6.95

At the State level, California Health and Safety Code Division 20, Chapter 6.95 establishes the Hazardous Materials Business Plan (HMBP), which is administered at the local level by appointed Certified Unified Program Agencies (CUPAs) under the oversight of CalEPA. CUPAs work in tandem with other agencies such as the DTSC and the SWRCB and are empowered to conduct inspections, enforce compliance, and carry out corrective action when necessary. The HMBP program requires business handling hazardous materials above specified quantities to prepare and submit a business plan including an inventory of hazardous materials, site maps, emergency response procedures, and employee training protocols to be submitted through the California Environmental Reporting System and reviewed by the appropriate CUPA.

The TMD is the CUPA for the City of Berkeley. TMD administers various CUPA and other environmental programs and maintains documents related to the Emergency Planning.[35] The TMD maintains HMBP files for Berkeley facilities. In addition, the TMD maintains inspection and enforcement history for this and other CUPA programs and the industrial stormwater pollution prevention program.

California Code of Regulations, Title 22, Hazardous Waste Management

At the State level, under CCR Title 22, Division 4.5, DTSC regulates hazardous waste in California primarily under the authority of the Federal RCRA and the California Health and Safety Code. The Hazardous Waste Control Law (HWCL), under CCR 22, Chapter 30, establishes regulations that are similar to RCRA but more stringent in their application and empowers the DTSC to administer the State's hazardous waste program and implement the federal program in California. The DTSC is responsible for permitting, inspecting, ensuring compliance, and imposing corrective action programs to ensure that entities that generate, store, transport, treat, or dispose of potentially hazardous materials and waste comply with federal and State laws. The DTSC defines hazardous waste as waste with a chemical composition or other properties that make it capable of causing illness, death, or some other harm to humans and other life forms when mismanaged or released into the environment. The DTSC shares responsibility for enforcement and implementation of

[35] Berkeley, City of. 2025. Community GIS Portal: Environmental Management Area. Available: https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment (accessed May 2025).

hazardous waste control laws with the SWRCB and, at the local level, the RWQCB, and city and county governments.

California Code of Regulations Title 23, Chapter 15 Discharges of Hazardous Waste to Land Section 2511(b)

CCR 23, Chapter 15 Discharges of Hazardous Waste to Land Section 2511(b) pertains to water quality aspects of waste discharge to land. The regulation establishes waste and site classifications as well as waste management requirements for waste treatment, storage, or disposal in landfills, surface impoundments, waste piles, and land treatment facilities. Requirements are minimum standards for proper management of each waste category, which allows regional water boards to impose more stringent requirements to accommodate regional and site-specific conditions. In addition, the requirements of CCR 23, Chapter 15 applies to cleanup and abatement actions for unregulated hazardous waste discharges to land (e.g., spills).

California Accidental Release Prevention Program

The purpose of the California Accidental Release Prevention (Cal ARP) program is to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. The Cal ARP requires any business that handles more than threshold quantities of an extremely hazardous substance per California regulations to develop a Risk Management Plan (RMP). The RMP is implemented by the business to prevent or mitigate releases of regulated substances that could have off-site consequences through hazard identification, planning, source reduction, maintenance, training, and engineering controls. The RMP contains the following elements:

- Safety Information
- A Hazard Review
- Operating Procedures
- Training Requirements
- Compliance Audits
- Incident Investigation Procedures

The RMP must also consider the proximity to sensitive populations located in schools, residential areas, general acute care hospitals, long-term health care facilities, and child day care facilities. The RMP must also consider external events such as seismic activity. The Certified Unified Program Agencies determine the level of detail in the RMPs, review the RMPs, conduct facility inspections, and provide public access to most of the information. There are three program levels identified by Cal ARP and they are dependent on the type of business, potential impact, and accident history, among other factors.

If an accidental release occurs, the owner/operator of a facility shall ensure that response actions have been coordinated with local emergency planning and response agencies.

California Fire and Building Code

The California Building Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency

operations. The provisions of this code apply to the construction, alteration, movement enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

The 2022 California Fire Code, found in Title 24, Part 9 of the California Code of Regulations establishes enforceable standards for minimizing fire, explosion, and hazardous material risks in buildings and facilities. It also includes provisions to support emergency response efforts.

Section 1207 specifically addresses the design, installation, operation, maintenance, decommissioning, and mitigation of hazards such as fire and spill response for electrical energy storage systems. The California Fire Code incorporates standards from the National Fire Protection Association and UL Solutions (formerly Underwriters Laboratories) discussed in Section 3.7.2, *Regulatory Setting, Federal*. The City of Berkeley adopted this version of the code in Berkeley Municipal Code (BMC) Chapter 19.48 along with specific local modifications.

California State Hazard Mitigation Plan

The 2023 California State Hazard Mitigation Plan (SHMP) builds upon the state's commitment to reduce or eliminate potential risks and impacts of natural and human-caused disasters to help communities with their mitigation and disaster resiliency efforts. The plan identifies and profiles various hazards, including earthquakes, wildfires, floods, drought, extreme heat, and climate change impacts, and establishes mitigation goals, objectives, and actions to encourage community resilience. The SHMP provides guidance for local jurisdictions to develop their own hazard mitigation plans and ensures California's eligibility for federal disaster assistance and mitigation funding.[36]

California Emergency Plan

The California Emergency Plan, developed by the California Governor's Office of Emergency Services, provides a comprehensive framework for statewide emergency management. It explains the state's approach to preparing for, mitigating, responding to, and recovering from various hazards, including natural disasters, technological incidents, and human-caused events. The plan details the roles and responsibilities of state agencies, local governments, and other stakeholders. The California Emergency Plan also includes provisions for mutual aid, public information dissemination, and continuity of government during emergencies to improve California's resilience during times of emergency response and recovery efforts.

Porter-Cologne Water Quality Control Act

The California Porter-Cologne Act, and any other State water regulations, are identified and discussed in Section 3.8, *Hydrology and Water Quality*, of this EIR.

[36] California Governor's Office of Emergency Services. 2023. California State Hazard Mitigation Plan. Available: https://www.caloes.ca.gov/office-of-the-director/operations/recovery-directorate/hazard-mitigation/state-mitigation-planning/ (accessed May 2025).

Regional and Local Regulations

PG&E Electric and Gas Service Requirements (Greenbook)

Pacific Gas & Electric (PG&E) Greenbook (TD-7001M) includes technical specifications for BESS projects within PG&E's service area, for their interconnection, metering, and switchgears. Appendix C of the Greenbook includes engineering documents relevant to BESS design and installation.

Bay Area Air District Regulation 11, Rule 2

The Bay Area Air District regulates demolition and renovation of asbestos-containing materials (ACM) through Rule 2, which applies to any planned renovation that involves 100 square feet, 100 linear feet, or 35 cubic feet or more of ACM, as well as to all demolitions regardless of ACM content. The requirements include a noticing period, the conducting of a pre-demolition survey for ACM materials by a certified inspector, and a general prohibition on demolition until ACM has been abated and removed from the location and requires that abatement be conducted by persons with specific asbestos certification (primarily Asbestos Hazard Emergency Response Act certification).

Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR

The Water Emergency Transportation Authority (WETA) – also known as San Francisco Bay Ferry – prepared the Expansion of Ferry Transit Service in the San Francisco Bay Area Program EIR in 2003 (WETA Program EIR). The Water Resources Section of the WETA Program EIR, which the City incorporates by reference herein, included an analysis of the potential impacts on water resources from accidental spills due to the operation of ferry vessels. The WETA Program EIR imposed mitigation that would require continued implementation of safety planning and contingency planning to minimize the potential for accidental spills from the operation of ferry vessels.

Berkeley General Plan

DISASTER PREPAREDNESS AND SAFETY ELEMENT

The Berkeley General Plan Disaster Preparedness and Safety Element includes the following policies applicable to hazards and hazardous materials:

Policy S-1 Response Planning

Ensure that the City's emergency response plans are current and incorporate the latest information on hazards, vulnerability, and resources.

Policy S-12 Utility and Transportation Systems

Improve the disaster-resistance of utility and transportation systems to increase public safety and to minimize damage and service disruption following a disaster.

Policy S-13 Hazards Identification

Identify, avoid, and minimize natural and human-caused hazards in the development of property and the regulation of land use.

Policy S-14 Land Use Regulation

Require appropriate mitigation in new development, in redevelopment/reuse, or in other applications.

Policy S-21 Fire Preventative Design Standards

Develop and enforce construction and design standards that ensure new structures incorporate appropriate fire prevention features and meet current fire safety standards.

Policy S-22 Fire Fighting Infrastructure

Reduce fire hazard risks in existing developed areas.

Policy S-24 Mutual Aid

Continue to fulfill legal obligations and support mutual aid efforts to coordinate fire suppression in Alameda and Contra Costa Counties, Oakland, the East Bay Regional Park District, and the State of California to prevent and suppress major wildland and urban fire destruction.

ENVIRONMENTAL MANAGEMENT ELEMENT

The Berkeley General Plan Environmental Management Element contains the following policies applicable to the management of hazards and hazardous materials:

Policy EM-10 Materials Recovery and Remanufacturing

Support and encourage serial materials recovery and remanufacturing industries.

Policy EM-11 Biodegradable Materials and Green Chemistry

Support efforts to phase out the use of long-lived synthetic compounds, such as pesticides and vehicle anti-freeze, and certain naturally occurring substances which do not biodegrade. Encourage efforts to change manufacturing processes to use biodegradable materials, recycle manufactured products, reuse byproducts, and use “green” products.

Policy EM-12 Education

Work with other State and local agencies to educate business owners and residents regarding safe use, recycling, and disposal of toxic materials; reducing hazardous household wastes; and substitutes for these substances.

Policy EM-13 Hazardous Materials Disclosure

Continue to require the disclosure of hazardous materials usage and encourage businesses using such materials to prepare and implement a plan to reduce the use of hazardous materials and the generation of hazardous wastes.

Policy EM-14 Hazardous Material Regulation

Control and regulate the use, storage and transportation of toxic, explosive, and other hazardous and extremely hazardous material to prevent unauthorized and accidental discharges.

Policy EM-15 Environmental Investigation

When reviewing applications for new development in areas historically used for industrial uses, require environmental investigation as necessary to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses would not have the potential to affect the environment or the health and safety of future property owners, users, or construction workers.

Policy EM-16 Risk Reduction

Work with owners of vulnerable structures with significant quantities of hazardous material to mitigate potential risks.

Berkeley Municipal Code

Title 15 of the Berkeley Municipal Code includes the Berkeley Hazardous Materials Code. The intent of this title is to provide regulations and standards for certain operations, enterprises or activities which, if not regulated, may adversely affect public health and safety. Berkeley's TMD is a Certified Unified Program Agency and implements Chapter 6.11 of Division 20 of the California Health and Safety Code and Title 15 of the BMC. The TMD has created Berkeley's Hazardous Materials Business Plan, which is meant to satisfy federal and state Community laws and provides detailed information for use by emergency responders.

TMD also oversees projects located in Environmental Management Areas (EMA or EMAs), which are zones designated by the City of Berkeley where there is known or suspected groundwater contamination. Projects within these areas are subject to specific permit requirements established by the City to ensure the safe handling of contaminated soil and groundwater to prevent public health risks. As a condition of development approval, the EMA designation requires that construction and development activities in these zones follow stringent protocols to manage and mitigate contamination effectively. These requirements include:

- Site Assessment: Conducting thorough environmental site assessments to identify the extent of contamination and potential risks.
- Soil and water management: Implementing protocols for handling contaminated soil and groundwater, including proper disposal and treatment methods.
- Health and safety plans: Developing health and safety plans to protect workers and the public from exposure to hazardous materials.
- Monitoring and reporting: establishing monitoring programs to track contamination levels and reporting findings to relevant authorities.
- Permit compliance: obtaining necessary permits and approvals from the City's Toxics Management Division, who will notify the responsible agency if a soil or groundwater management plan is necessary, before commencing work.

Berkeley Local Hazard Mitigation Plan (LHMP)

Berkeley is exposed to several natural and human-caused hazards that vary in their intensity and impacts on the city. The LHMP addresses earthquake, wildland-urban interface, extreme heat, poor air quality, high wind, rainfall-triggered landslide, tsunami, sea level rise, floods, utility interruption, hazardous materials release, and infectious disease. The 2024 LHMP specifies that the City has not recently experienced hazardous materials releases as a cascading impact of a natural hazard, and that climate change is no longer treated as a standalone hazard. Instead, climate change is

integrated throughout the document to frame the discussion around standalone hazards as a cross-cutting factor that influences risk and vulnerability.

The City of Berkeley's 2024 LHMP serves three main functions:

- The 2024 LHMP documents the City's current understanding of the hazards present in Berkeley, along with their vulnerabilities to each hazard – the ways that the hazard could impact buildings, infrastructure, community, and environment.
- The LHMP presents Berkeley City government's Mitigation Strategy for the coming five years. The Mitigation Strategy reflects a wide variety of both funded and unfunded actions, each of which could reduce Berkeley's hazard vulnerabilities.
- By fulfilling requirements of the Disaster Mitigation Act of 2000, the 2024 LHMP ensures that Berkeley will remain eligible to apply for mitigation grants before disasters, and to receive federal mitigation funding and additional State recovery funding after disasters.[37]

3.7.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to 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?

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?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

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, result in a safety hazard or excessive noise for people residing or working in the project area?

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Note that wildfire impacts related to being located in or near a State Responsibility Area or lands classified as very high fire hazard severity zones are discussed in Section 3.15, *Effects Found Not to be Significant*.

[37] Berkeley, City of. 2025. 2024 Local Hazard Mitigation Plan (LHMP). Berkeley, CA. Available: https://berkeleyca.gov/sites/default/files/documents/Final%202024%20LHMP%20SENT%20TO%20FEMA%20NOVEMBER%2027.pdf. (accessed May 2025).

Approach to Analysis

Environmental impacts related to hazards and hazardous materials have been assessed using impact significance criteria from federal, State, and local regulations. The impact analysis is based on available literature regarding the existing plans, policies, and resources in the project site. Criteria used during this analysis are described below.

- Hazards (Specific to Hazardous Materials Upset and Exposure Risk). This evaluation focuses on whether the proposed project would result in changes to the physical environment that would cause or exacerbate adverse effects related to the use, transportation, disposal, accidental release, or emission of hazardous materials. Potential construction-related and operational impacts from existing hazardous materials in soils, sediments, groundwater, and surface water are evaluated using available information from the DTSC and the SWRCB.
- Hazards (Specific to Aviation Safety and Noise Exposure Risk). The airport safety zones and noise contours for the closest airport to the project site (Oakland International Airport) were reviewed to determine potential impacts from exposure to aviation-related hazards and noise.
- Emergency Evacuation and Response. The evaluation includes a determination of whether the changes to the physical environment caused by the proposed project would impair or interfere with emergency response plans, including the Berkeley Local Hazard Mitigation Plan.
- Wildfire Exposure Risk. The California Department of Forestry and Fire Protection Hazard Severity Maps were consulted in determining the project's proximity to State Responsibility Areas or lands classified as very high fire hazard severity zones. Impacts related to wildfire hazards and risks were evaluated using Fire Hazards Severity Zone mapping for Alameda County, aerial imagery, and topographic mapping.

EIR Scoping Comments Consideration

This section addresses comments submitted by individuals and organizations in response to the EIR NOP related to various concerns regarding hazardous materials impacts.

BCDC provided a comment requesting discussion of creosote-related impacts and potential hazards related to reasonably foreseeable upset and accident conditions involving the use and storage of lithium batteries on site. This comment is addressed below in Impact HAZ-1.

Two organizations (SPRAWLDEF and the Sierra Club San Francisco Bay Chapter) provided a comment urging a discussion on hazardous materials impacts, which is addressed throughout the following impact analysis.

Individuals provided comments related to emergency evacuation in the event of a natural disaster. These comments are discussed in the impact analysis below in Impact HAZ-5.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of the hazards and hazardous materials impacts resulting from implementation of the proposed project.

- Regular transport of hazardous materials to/from the project site on an unsuitable road not approved by the United States Department of Transportation for the transport of hazardous materials or use of highly volatile hazardous materials, which would create a significant hazard to the public or the environment.

- Location of the project within 0.25 mile of an existing or proposed school in conjunction with hazardous emissions or handling hazardous materials, waste, or substances.
- Location of the project on a hazardous materials sites list meeting Government Code Section 65962.5 (Cortese List) requirements, such as the DTSC EnviroStor database and/or the SWRCB GeoTracker database.
- Location of the project within an airport land use plan or within two miles of a public airport and reduction of safety of people working or residing in the project site.
- Impairing implementation of or interfering with the Local Hazard Mitigation Plan via blockage of an evacuation route, such as I-80 or the I-80 Bicycle/Pedestrian Overcrossing, University Avenue, or Frontage Road.
- Location of the project in or near area of susceptible vegetation, steep slopes, high-wind areas, fuel and power lines, or previous wildfire burn areas leading to greater wildfire risk.

Impact Evaluation

Hazardous Materials Upset and Exposure

Significance Criterion a:	Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Significance Criterion b:	Would the proposed project 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?

Impact HAZ-1 CONSTRUCTION AND OPERATION OF THE PROJECT COULD RESULT IN AN INCREASE IN THE OVERALL ROUTINE TRANSPORT, USE, AND DISPOSAL OF HAZARDOUS MATERIALS IN BERKELEY. NONETHELESS, REQUIRED COMPLIANCE WITH APPLICABLE REGULATIONS RELATED TO HAZARDOUS MATERIALS WOULD MINIMIZE THE RISK OF RELEASES AND EXPOSURE TO THESE MATERIALS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

The following discussion addresses the transport, use, storage, and disposal of hazardous materials during construction activities; the potential for release of existing contaminated materials during construction; and the potential for exposure to lead-based paint or ACM during demolition or construction.

TRANSPORTATION, USE, STORAGE, AND DISPOSAL[38]

Construction associated with the project may include the temporary transport, storage, and use of potentially hazardous materials including demolition debris, dredged material, fuels, lubricating fluids, cleaners, or solvents. If spilled, these substances could pose a risk to the environment and to human health. However, the transport, storage, use, or disposal of hazardous materials is subject to various federal, state, and local regulations designed to reduce risks associated with hazardous materials, including potential risks associated with upset or accident conditions. Hazardous materials

[38] See Section 3.14, *Utilities and Service System*, which identifies the solid waste facilities that could be used for the proposed project.

would be required to be transported under U.S. DOT regulations (U.S. DOT Hazardous Materials Transport Act, 49 Code of Federal Regulations), which specify the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways. DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California. It does this primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safey Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations, Divisions 4 and 4.5). DTSC also oversees permitting, inspection, compliance, and corrective action programs to ensure that hazardous waste managers follow federal and State requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Compliance with existing regulations would reduce the risk of potential release of hazardous materials during construction. Therefore, construction impacts related to hazardous materials exposure due to transport, use, storage, or disposal of hazardous materials during construction would be less than significant.

RELEASE – LANDSIDE

Portions of the project on land are in an EMA as identified by the City's TMD, which identifies areas known or suspected of having groundwater contamination.[39] There are no hazardous material sites or release cases located within the project site. There are, however, three closed LUST Cleanup Site cases that resulted in impacted groundwater and gasoline-impacted soil are within 580 feet of the project site. In addition, soil within the project site and adjacent to I-80 may be affected by contamination from ADL, a contaminant historically deposited by cars burning leaded gasoline that is often found in the soil adjacent to highways and roadways. Furthermore, based on the project site location within and adjacent to artificial fill lands, elevated concentrations of other hazardous materials, such as petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons, heavy metals, pesticides, or polychlorinated biphenyls may also be present in artificial fill, soil, and sediment at the project site.

Demolition, excavation, grading, and construction activities may result in exposure of construction workers to contaminants through the mobilization of sediment, dust, and/or soil in and adjacent to the project site. However, construction within an EMA requires project review by the TMD prior to issuance of permits. All projects requiring discretionary review, such as this project, would be subject to the following City of Berkeley Standard Condition of Approval:

Toxics. The City shall coordinate with the Toxics Management Division (TMD) to determine which of the following documents are required and timing for their submittal: [40]

A. Environmental Site Assessments
    1. Phase I Environmental Site Assessments (latest ASTM 1527-13). A recent Phase I ESA (less than 2 years old) shall be submitted to TMD for developments for:
        - All new commercial, industrial and mixed-use developments and all large improvement projects.
        - All improvement projects that require 5 or more feet below grade.

[39] Berkeley, City of. 2025. City of Berkeley Community GIS Portal. Available: https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment (accessed March 2025).
[40] Kim, Nicole. 2025. Hazardous Materials Specialist II, City of Berkeley Planning and Development Toxics Management Division. Personal Communication via email regarding EMA requirements with Ryan Perry, Environmental Planner, Rincon Consultants. August 12.

- EMA is available online at:
  - https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment [41]

B. Soil and Groundwater Management Plan

1. A Soil and Groundwater Management Plan (SGMP) shall be submitted to TMD for all non-residential projects that: (1) are in the EMA and (2) propose any excavations deeper than 5 feet below grade. The SGMP shall be site specific and identify procedures for soil and groundwater management including identification of pollutants and disposal methods. The SGMP will identify permits required and comply with all applicable local, state and regional requirements.
2. The SGMP shall require notification to TMD of any hazardous materials found in soils and groundwater during development within 24 hours of the discovery of any previously undiscovered contamination. The SGMP will provide guidance on managing odors during excavation. The SGMP will provide the name and phone number of the individual responsible for implementing the SGMP and post the name and phone number for the person responding to community questions and complaints.
3. TMD may impose additional conditions as deemed necessary. All requirements of the approved SGMP shall be deemed conditions of approval of this Use Permit.

C. Building Materials Survey

4. Prior to approving any permit for partial or complete demolition and renovation activities involving the removal of 20 square or lineal feet of interior or exterior walls, a building materials survey shall be conducted by a qualified professional. The survey shall include, but not be limited to, identification of any lead-based paint, asbestos, polychlorinated biphenyl (PBC) containing equipment, hydraulic fluids in elevators or lifts, refrigeration systems, treated wood and mercury containing devices (including fluorescent light bulbs and mercury switches). The Survey shall include plans for hazardous waste or hazardous materials removal, reuse or disposal procedures to be implemented that fully comply with state hazardous waste generator requirements (22 California Code of Regulations 66260 et seq). The Survey becomes a condition of any building or demolition permit for the project. Documentation evidencing disposal of hazardous waste in compliance with the survey shall be submitted to TMD within 30 days of the completion of the demolition. If asbestos is identified, Bay Area Air District Regulation 11-2-401.3 a notification must be made and the J number must be made available to the City of Berkeley Permit Service Center.

D. Hazardous Materials Business Plan

1. A Hazardous Materials Business Plan (HMBP) in compliance with BMC Section 15.12.040 shall be submitted electronically at http://cers.calepa.ca.gov/ within 30 days if on-site hazardous materials exceed BMC 15.20.040. HMBP requirement can be found at http://ci.berkeley.ca.us/hmr/

In addition to established TMD compliance required pursuant to the project site's status as an EMA, if contaminated surface water or groundwater is encountered during construction (including

[41] Berkeley, City of. 2025. City of Berkeley Community GIS Portal. Available: https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Environment (accessed March 2025).

decontamination water, purge water, dewatering, or underground structures), it must be discharged in accordance with applicable regulatory requirements. Indicators of potential contamination may include the presence of a visible sheen on the water surface or noticeable odors. Discharge to the City of Berkeley sewer system requires coverage under a National Pollutant Discharge Permit, while discharge to surface waters via the storm drain system requires a NPDES permit issued by the San Francisco Bay RWQCB. All discharges must comply with the applicable permit requirements, which may include treatment measures such as de-silting tanks, sand filtration, granular activated carbon, and/or use of an ion exchange resin. The City of Berkeley is responsible for verifying that either a Wastewater Discharge Permit or NPDES permit is obtained by its contractor(s) prior to construction and may conduct spot checks to ensure compliance.

The removal, transport, storage, use, or disposal of hazardous materials would be subject to federal, state, and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials, including the Standard Condition of Approval discussed above. Compliance with these requirements would minimize the risks associated with hazardous materials, and, therefore, construction impacts associated with release of contaminated materials during landside construction would be less than significant.

RELEASE – WATERSIDE

There are also several contaminants present in Bay Area sediments that are routinely found at elevated concentrations, above sediment quality guidelines. These chemicals include PCBs, polycyclic aromatic hydrocarbons, pesticides (e.g., dieldrin and chlordane), and several metals (e.g., copper, mercury, lead, and zinc). A 2023 sediment sampling analysis conducted during the Berkeley Marina Dredging Project identified mercury, total PCBs, and dioxins/furans in Bay Area sediments.[42] In addition, sediments were sampled and analyzed in 2025 within the five dredge units within the project vicinity in accordance with the Inland Testing Manual,[43] site-specific requirements for the proposed reuse sites, and the United States Army Corps of Engineer's Dredged Material Management Office.[44] The sampling and analysis included evaluation of the sediments for placement at disposal sites in San Francisco Bay, the Cullinan Ranch Restoration Project (CRRP), and the Montezuma Wetlands Restoration Project (MWRP) beneficial reuse sites. Based on the findings of the sampling and analysis the sediments are suitable for reuse as summarized below:

- Dredge Unit 1: Unconfined aquatic disposal in San Francisco Bay and MWRP
- Dredge Units 2, 3, and 5: Unconfined aquatic disposal in San Francisco Bay and CRRP, and MWRP
- Dredge Unit 4: CRRP and MWRP

Metals, organochlorine pesticides, polynuclear aromatic hydrocarbons, polychlorinated biphenyls, and dioxins/furans were detected in sediment samples analyzed; however, the concentrations did not exceed California or Federal hazardous waste criteria.

Based on the findings of the sediment sampling and analysis, there are not anticipated to be significant impacts related to the handling of the sediments should the sediments be limited to reuse within the reuse sites in which they were determined to be suitable.

[42] Pacific EcoRisk. 2023. Characterization of the Sediment from the Berkeley Marina: Results of Sediment Sampling and Analysis.
[43] USEPA/USACE. 1998. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual – Inland Testing Manual. U.S. Environmental Protection Agency/U.S. Army Corps of Engineers. EPA-823-B-94-002. U.S. Environmental Protection Agency, Office of Water (4305).
[44] Pacific EcoRisk. 2025. Characterization of the Sediment from Berkeley Water Transportation Pier Ferry Project: Results of Sediment Sampling and Analysis. September 19.

In addition, there is the potential for other unknown impacts to Bay Area sediments from surrounding land uses and wastewater/stormwater discharges. There is the potential for the sediments that are dredged to be contaminated, which could result in health hazard impacts to workers or the environment if not properly managed. However, the project would be subject to the City of Berkeley Standard Condition of Approval discussed above in "Release of Contaminated Materials During Construction – Landside." Compliance with these requirements and with federal, state, and local regulations pertaining to the transport, use, storage, and disposal of hazardous materials would minimize the risks associated with potentially contaminated sediments, and impacts would be less than significant.

Additionally, pier pilings for the existing pier within the project site may have been treated with chemicals, such as creosote, that have the potential to lead to toxicity in the surrounding water and sediment as the treated wood breaks down over time. Demolition materials from portions of the existing pier pilings may contain hazardous materials that could result in health hazard impacts on workers or the environment if not properly managed. However, compliance with existing regulations would minimize the potential risk associated with piles that have been treated with creosote, which is also known as Treated Wood Waste or TWW. California Health and Safety Code Sections 25143.1.5, 25150, and 25230 require that TWW is managed as hazardous waste unless specifically exempted. These provisions require that employees managing TWW be trained in the proper methods of identifying and segregating TWW, safely handling TWW, and the proper disposal of TWW. Furthermore, the California Code of Regulations, Title 22, Division 4.5, Chapters 12-14and Health and Safety Code Section 25150 include requirements related to how TWW can be stored, proper labeling of TWW, and timelines for disposal, which the City would be required to adhere to. In addition, the California Code of Regulations Section 25150 and Health and Safety Code Chapter 13 require that TWW be managed as a non-RCRA hazardous waste and transported to Class I Hazardous Waste Landfill. TWW must be identified with a state hazardous waste code on the hazardous waste manifest, and its disposal must comply with DTSC requirements. Although demolition of the existing pier pilings may result in a potential health hazard to workers and the environment, overall, the removal of creosote piles would provide an environmental benefit by removing a hazardous material from the San Francisco Bay, and potential impacts would be limited to the handling, transportation, and disposal of these piles. Through adherence to existing regulations that regulate the handling, transportation, and disposal of these piles, impacts would be less than significant.

With compliance with existing regulations for the removal, transport, storage, use, or disposal of hazardous materials, construction impacts associated with release of contaminated materials during waterside construction would be less than significant.

Lead-Based Paint Exposure

Roadways in the City of Berkeley that were paved prior to the 1970s may contain lead-based materials in the striping paint historically used. Proposed circulation improvements along University Avenue and Seawall Drive would include repaving and restriping activities, which may involve the disturbance or removal of existing asphalt and associated paint. Such activities could result in health hazard impacts to workers if not properly managed.

Projects in Berkeley are subject to CalOSHA regulations regarding lead-based materials. The California Code of Regulations, Title 8, Section 1532.1, requires testing, monitoring, containment, and disposal of lead-based materials, such that exposure levels do not exceed CalOSHA standards. Therefore, with implementation of standard CalOSHA lead safety protocols, construction impacts related to lead exposure specific to roadway improvements would be less than significant.

ASBESTOS-CONTAINING MATERIALS EXPOSURE

Berkeley contains numerous residential and commercial structures that, due to their age, may contain asbestos and/or lead-based paint. Structures built before the 1970s typically contained asbestos-containing materials (ACM). Given the age of the existing Berkeley pier, there is potential for asbestos contamination in the concrete pilings. Demolition of these structures could result in health hazard impacts to workers if not remediated prior to construction activities. However, the project would be subject to the City of Berkeley Standard Conditions of Approval above, which includes a Building Materials Survey prior to approval of permits for complete or partial demolition. The condition of approval requires that a building materials survey be conducted by a qualified professional. The survey must include plans on hazardous waste or hazardous materials removal, reuse or disposal procedures to be implemented that fully comply with state hazardous waste generator requirements. The project would also be required to adhere to Bay Area Air District Regulation 11, Rule 2, which governs the proper handling and disposal of ACM for demolition, renovation, and manufacturing activities in the Bay Area. With adherence to the Standard Conditions of Approval and Bay Area Air District policies regarding ACM, construction impacts related to asbestos exposure specific to pier pilings demolition would be less than significant.

Operation

The risk of hazardous materials creating a significant hazard to the public or the environment would primarily occur during construction, if contaminated surface water, groundwater, sediment, or soil were disturbed on-site. Once the proposed project is operational, the contaminated media would be removed or covered and would no longer pose a risk to the public or the environment.

TRANSPORTATION, USE, STORAGE, AND DISPOSAL

While it is possible that proposed pier and associated infrastructure operation could result in a nominal increase in the frequency of maintenance and inspection trips, it would not result in an increase in hazardous material conditions or disruption of hazardous materials within the project site. Although the proposed ferry service would be electric, which would not require a backup generator or diesel fuel, potential discharges from onboard systems represent a minor but conceivable source of hazardous waste. Discharges could include lubricants, hydraulic fluids, or sewage, which could occur with WETA's existing fleet. As described in Section 3.7.3, *Regulatory Framework*, WETA has analyzed the potential impacts from accidental spills due to the expansion of ferry transit. With the implementation of mitigation requiring safety planning and contingency planning to minimize the potential for accidental spills from the operation of ferry vessels, impacts were found to be less than significant in the WETA Program EIR. As part of its WETA Program EIR, WETA will continue to implement safety planning and contingency planning as part of the expanded ferry service to Berkeley. In addition, ferry vessels would be maintained off-site, at the Central Bay Operations and Maintenance Facility in Alameda, California. Beyond the transport of onboard sewage systems, which would comply with applicable regulations, operation and maintenance would not require the routine use, storage, transport, or disposal of hazardous materials. Therefore, operational impacts related to transportation, use, storage, and disposal of hazardous materials would be less than significant.

RELEASE – BATTERIES

The all-electric ferry service will rely on the use of lithium-ion batteries. While there is a potential risk of upset and accidental release of hazardous chemicals contained within the batteries due to a fire or

damage to lithium-ion batteries from physical impact, exposure to certain temperatures, and/or improper charging, the project incorporates multiple safety features to address these risks. As discussed below in Impact HAZ-6, the project site is not prone to fire hazards, and the project design includes flame suppression features. For example, the Universal Charging Float or UCF is equipped with a dedicated fire suppression system to address potential hazards associated with the use and storage of batteries under reasonably foreseeable upset or accident conditions. In addition, in the event of a fire incident, the pier will include water lines and hose bibs that will be available to extinguish flames, and the pier itself will be designed to accommodate fire trucks and emergency vehicles.

Lithium-ion batteries are regulated by the USDOT as Class 9 Miscellaneous Dangerous Goods. The transport, use, storage, and disposal of batteries during operation and maintenance of the project would be subject to all applicable federal, State, and local laws, regulations, standards, and guidelines established by the USEPA, the State of California, and the City related to storage, use, and disposal of hazardous materials. Applicable laws include the HMTA, RCRA, 40 CFR Parts 260- through 273, 49 CFR 171 through 180, and CCR Title 22 (as described in Section 3.7.3, Regulatory Framework). TMD is the Certified Unified Program Agency for the City and performs inspections to prevent exposure to environmental health hazards for businesses and residents in Berkeley. California Governor's Office of Emergency Services provides emergency response to hazardous materials incidents occurring in the applicable planning area. Adherence to applicable regulations, including preparation of a HMBP, would be required to reduce potential consequences of operational accidents involving hazardous materials and the potential consequences of any such accidents. As discussed above, an HMBP would be required by the City's Standard Condition of Approval.

Compliance with applicable federal, state, and local requirements, and implementation of fire protection protocols, would result in a less than significant hazard to the public through the accidental release of hazardous materials associated with lithium-ion batteries during operation. Operational impacts related to the release of hazardous materials specific to electric batteries would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Proximity to Schools

Significance Criterion c:	Would the proposed project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Impact HAZ-2 THE PROJECT SITE IS NOT LOCATED WITHIN 0.25 MILE OF AN EXISTING OR PROPOSED SCHOOL. THE PROPOSED PROJECT WOULD, THEREFORE, HAVE NO IMPACT RELATED TO EMITTING HAZARDOUS EMISSIONS OR HANDLING HAZARDOUS OR ACUTELY HAZARDOUS MATERIALS, SUBSTANCES, OR WASTE WITHIN 0.25 MILE OF AN EXISTING OR PROPOSED SCHOOL.

Construction

There are no schools within 0.25 mile of the project site. The nearest school, Rosa Parks Elementary School, is located 0.5 mile east of the project site. In addition, the Berkeley Unified School District publishes an annual Community Report where they discuss facilities updates. In the 2023-2024 report, the Berkeley Unified School District discusses ongoing and proposed construction to renovate current schools. According to this report, there have been no plans announced to construct future schools within 0.25 mile of the project site.[45] Therefore, construction of the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no impact would occur.

Operation

The project would not involve new industrial or manufacturing uses and would not generate hazardous materials or waste during operation. For this reason, and because there are no schools within 0.25 mile of the project site, operation of the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact

[45] Berkeley Unified School District. 2024. Berkeley Public Schools Community Report 2023-2024. Available: https://www.berkeleyschools.net/wp-content/uploads/2025/03/BUSD.CommunityReport.2024.Final_.pdf (accessed March 2025).

Hazardous Materials Site Risks

Significance Criterion d:	Would the proposed project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Impact HAZ-3 THE PROPOSED PROJECT WOULD NOT BE LOCATED ON A SITE WHICH IS INCLUDED ON A LIST OF HAZARDOUS MATERIALS SITES COMPILED PURSUANT TO GOVERNMENT CODE SECTION 65962.5. AS A RESULT, THE PROPOSED PROJECT WOULD NOT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT FROM BEING LOCATED ON A SITE WHICH IS INCLUDED ON A LIST OF HAZARDOUS MATERIALS SITES COMPILED PURSUANT TO GOVERNMENT CODE SECTION 65962.5. NO IMPACT WOULD OCCUR.

Construction and Operation

Based on a review of hazardous materials databases, described in the *Existing Hazardous Materials Release Sites* sub-section in Section 3.7.2, there are no hazardous materials sites mapped within the project site. Although the project site is designated as an Environmental Management Area (EMA) due to historical groundwater contamination, and three closed Leaking Underground Storage Tank (LUST) cases are located near the project site, these conditions do not constitute a listed hazardous materials site under the referenced code section. Potential impacts related to the site's EMA status and nearby closed LUST cases are evaluated under Impact HAZ-1. Therefore, the project would not be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and no construction- or operation-related impacts would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact

Aviation Hazards

Significance Criterion 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 proposed project result in a safety hazard or excessive noise for people residing or working in the project area?

Impact HAZ-4 THE PROPOSED PROJECT WOULD NOT BE LOCATED WITHIN AN AIRPORT LAND USE PLAN OR WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, AND WOULD NOT RESULT IN A SAFETY HAZARD OR EXCESSIVE NOISE RELATED TO AIRPORT OPERATION FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA. NO IMPACT WOULD OCCUR.

Construction and Operation

Oakland International Airport is the airport closest to the project site and is located approximately 11 miles southeast of the project site. The project site is not located in any airport safety zone and the project site is located outside of the 55, 60, 65, 60, 70, and 75 CNEL contours and safety contours

generated by Alameda County.[46] The project site is also not located within the vicinity of a private airstrip. Therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working at the project site, related to airport operation. No aviation hazard impact would occur during construction and operation of the proposed project.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact

Emergency Response and Evacuation Plans Consistency

Significance Criterion f:	Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact HAZ-5 **THE PROPOSED PROJECT WOULD NOT RESULT IN PHYSICAL CHANGES THAT COULD INTERFERE WITH OR IMPAIR EMERGENCY RESPONSE OR EVACUATION. THEREFORE, THE PROJECT WOULD NOT RESULT IN INTERFERENCE WITH THESE TYPES OF ADOPTED PLANS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Construction and Operation

Figure 14 of the Berkeley General Plan identifies existing emergency access and evacuation routes in the City. The project site is located along University Avenue and adjacent to I-80, which can both be used as evacuation routes in the event of an emergency. The 2002 Berkeley General Plan Disaster Preparedness and Safety Element specifically designates University Avenue as an Emergency Access and Evacuation Route, while only a small portion of I-80 south of the project site parallel to Aquatic Park is designated as an Emergency Access and Evacuation Route, providing access to Ashby Avenue which runs parallel to and approximately 1.3 miles south of University Avenue.[47] The City of Berkeley 2024 LHMP, adopted in 2025, identifies additional egress routes near the project site that are relatively constrained:

- University Avenue Bridge
- Frontage Road north to Gilman Street
- Frontage Road south to Ashby Avenue/CA-13
- I-80
- I-80 Bicycle/Pedestrian Overcrossing

[46] Alameda County Airport Land Use Commission. 2025. Alameda County ALUC Map. Available: https://acpwa.maps.arcgis.com/apps/View/index.html?appid=e31f8aa775ab44549cbfb306d4cecbf0 (accessed March 2025).
[47] Berkeley, City of. 2002. General Plan Disaster Preparedness and Safety Element. Berkeley, CA. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed May 2025).

The LHMP states that evacuation will be slowed by pinch points created on the stretch of University Avenue between Marina Boulevard to the west and West Frontage Road to the east, as this stretch of roadway is the only eastward driving option out of the Berkeley Marina.[48]

Construction of the project would require staging in the Seawall Drive parking lot (and potentially at the Skates/N Lot and M Lot), and vehicle trips to and from the project site. Construction would occur in phasing and would involve improvements to a portion of University Avenue. Although improvements along University Avenue would potentially contribute to traffic during this phase of construction, these actions would be temporary and would serve to improve circulation and safety along this egress route.

While the new ferry terminal would not result in additional people living and working in the Berkeley Waterfront, it would result in more people coming to the Berkeley Waterfront in order to access the ferry or the recreational resources. If an emergency event, such as a tsunami, happened during a peak period before people had embarked on the ferry, those people along with all other people in the Berkeley Waterfront would need to evacuate the area, because the Waterfront is designated by the California Geological Survey and California Governor's Office of Emergency Services as a Tsunami Inundation Zone.[49] The National Tsunami Warning Center monitors potential tsunami activity and issues alerts to notify officials and the public about the potential for a tsunami using a tiered alerting system with the highest level of alert being a warning. The most recent tsunami evacuation of the Berkeley Waterfront occurred on December 5, 2024, following a magnitude 7.0 earthquake off the coast of Mendocino, California.

In a report published February 20, 2025, the City of Berkeley provides an after-action review of its response to the December 5, 2024, tsunami warning and summarizes community feedback to the City's response. The report emphasizes that the City's emergency response protocols are developed based on best practice guidance from the State of California and how these protocols were operationalized during the tsunami warning to ensure safety of residents and property at the Waterfront.[50] Upon receipt of the National Tsunami Warning Center warning notification, County and City staff mobilized to evacuate Waterfront residents by activating its Emergency Operations Center (EOC), which includes the Fire Department, Police Department, Department of Parks, Recreation, and Waterfront, Department of Public Works, and the City Manager's Office. The EOC also coordinated with external agencies including the California Highway Patrol, AC Transit, Berkeley Unified School District, American Red Cross, City of Albany, UC Berkeley, the Lawrence Berkeley National Lab, and the Alameda County Sheriff's Office.

Alameda County and the City of Berkeley used the following tools to communicate with residents about evacuation protocols:

- **AC Alert:** This system enables officials to send messages to:
  - **Land-line phones and VoIP phones**: AC Alert can send voice calls to land-line and VOIP phones, or TTY/TDD messages to those devices

[48] Berkeley, City of. 2025. 2024 Local Hazard Mitigation Plan. Berkeley, CA. Available: https://berkeleyca.gov/sites/default/files/documents/Final%202024%20LHMP%20SENT%20TO%20FEMA%20NOVEMBER%2027.pdf. (accessed May 2025).
[49] Berkeley, City of. 2025. 2024 Tsunami Warning After Action Report and Community Survey Summary. Available: https://berkeleyca.gov/sites/default/files/documents/2025-04-18%20%202024%20Tsunami%20Warning%20-%20After%20Action%20Report%20and%20Community%20Survey%20Summary.pdf (accessed July 2025).
[50] Berkeley, City of. 2025. 2024 Tsunami Warning After Action Report and Community Survey Summary. Available: https://berkeleyca.gov/sites/default/files/documents/2025-04-18%20%202024%20Tsunami%20Warning%20-%20After%20Action%20Report%20and%20Community%20Survey%20Summary.pdf (accessed July 2025).

  - **Subscriber cell phones and emails:** Community members can opt in and provide their mobile phone number and email address to receive voice calls, text messages, and emails on these devices. When they subscribe, they can indicate "addresses of interest." This means that if an emergency is affecting a specific area, their devices can be sent alerts for that area.
  - **Wireless Emergency Alerts:** Through the AC Alert system, the County and the City can send Wireless Emergency Alerts, which target phones based on their real-time location without requiring residents to opt in to alerts.

- **Genasys Protect App**: Sends real-time evacuation alerts to Berkeley residents
- **Berkeley Emergency Map**: Visualizes evacuation orders and warnings in real-time. Users can search for an address to identify recommended protection action tailored to their location.
- **Outdoor Warning System:** Network of sirens with voice capabilities that City officials can activate to alert people outdoors of an emergency.
- **Nixle:** This platform is used by the Berkeley Police Department to send out public safety alerts. Community members can personalize messages they receive when they set up their account.
- **Social Media Accounts**: City Manager's Office Communications staff amplify AC Alert notifications on BerkeleyCA.gov and Bluesky and X @ berkeleyca.gov.
- **WarnME:** UC Berkeley's alert and warning service for UC Berkeley staff, students, and faculty. Community members can receive WarnME alerts by registering at the Non-UC-Berkeley Affiliate Public Portal.

In addition to the egress routes listed in the LHMP, the EOC coordination with the California Highway Patrol and AC Transit facilitated a streamlined evacuation protocol by shutting down I-80 offramps into Berkeley and bringing additional buses to Marina areas to offer residents near the tsunami inundation zone with an alternate mode of evacuation. Traffic concerns were identified in the December 2024 evacuation as background traffic continued to enter Berkeley. To address this, the City updated its protocols to request immediate shutdown of I-80 offramps into Berkeley at the onset of a tsunami warning event and continues to coordinate with transportation partners to further clarify protocols for tsunami evacuation support.[51]

The LHMP identifies that operation of the proposed project will enhance emergency access at the Berkeley Waterfront, because the proposed project provides an alternative westward emergency evacuation route in the event of an emergency closure of the surrounding roads. This is particularly important in landside emergencies where eastward evacuation may be compromised.

Furthermore, as discussed in Chapter 2, *Project Description*, WETA has a legislative mandate to operate and coordinate emergency water transit when regional transportation systems are disrupted due to disaster or other events. Emergency operations may involve the rapid deployment of survivors, first responders, and disaster service personnel following a major emergency. In such scenarios, WETA would oversee and operate water-based transportation routes linking ferry terminals as part of a broader emergency transit network, facilitating access to care centers or base camps. The transport of emergency personnel into affected areas to deliver critical life-saving services would likely require shuttle connections, as many of these individuals would be stationed at base camps located away from the primary incident zones.

[51] Albrecht, Jamie. 2025. Emergency Services Coordinator, City of Berkeley Office of Emergency Services. Personal communication via email with Roger Miller, City of Berkeley Parks, Recreation, and Waterfront Department. August 11.

WETA ferry vessels have been deployed during emergencies in the past that disrupted other transportation systems. Following the 1989 Loma Prieta Earthquake, which disabled the Bay Bridge and BART Transbay Tube, ferry service operated overnight during inspections, and additional ferry vessels were brought in from Catalina Island and Puget Sound to help support ferry service while the Bay Bridge was repaired. In 2013, ferry ridership tripled as Bay Area residents used the ferry service to commute throughout BART strikes and increased by 79 percent over a five day-long BART closure in 2015.[52]

Despite the pinch points described in the LHMP, construction and operation of the project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. Instead, it would support emergency response capabilities by providing an alternative evacuation route via water transit in scenarios where landside routes are constrained or inaccessible, aligning with the City of Berkeley's LHMP and WETA's emergency operations mandate. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Wildland Fires

Significance Criterion g:	Would the proposed project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Impact HAZ-6 THE PROJECT IS NOT WITHIN OR NEAR A WILDLAND AREA. THE PROPOSED PROJECT WOULD NOT EXPOSE PEOPLE OR STRUCTURES, EITHER DIRECTLY OR INDIRECTLY, TO A SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH INVOLVING WILDLAND FIRES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Construction of the project would involve operation of heavy machinery that could result in increased fire hazards. As discussed below, the project site is characterized as having a low risk for wildland fires. Additionally, construction activities would be conducted in phases, closely monitored, and would involve the use of water for equipment cleaning and dust suppression. The use of water in construction would assist in maintaining safe equipment use as well as managing vegetation through soil moisture retention, which would reduce the likelihood of ignition in hot or dry conditions. Therefore, impacts related to wildland fire risk during construction would be less than significant.

[52] WETA. 2024. Our History: Timeline. Available: https://sanfranciscobayferry.com/our-history/ (accessed July 2025).

Operation

As described in Section 3.7.1, Environmental *Setting*, the following features of the project site characterize it as having a low risk for wildland fires:

- The project site and adjacent land are not within an SRA, LRA, or lands classified as very high fire hazard severity zones;
- The nearest SRA is in the Berkeley hills, more than 4 miles east of the project site.[53]
- The closest Very High Fire Hazard Severity Zone in an LRA is located just east of the UC Berkeley Campus, more than 3 miles east of the project site.[54]
- Despite the open space and vegetation at Shorebird Park, the project site is surrounded by wildfire buffers of San Francisco Bay and I-80;
- The site is not located within a State-designated earthquake-induced landslide hazard zone;

Although there is low potential for wildland fires given the conditions above, there have been a few instances of fires in the past, including an open cooking-induced grass fire in 2021 and a boat fire in 2022.

As discussed in Chapter 2.0, *Project Description*, the project has several built-in features that would reduce the risk of fire from the project, and would also provide infrastructure to fight fires, and respond to an emergency, such as a wildfire. The UCFs, which contain an electrical system, including the batteries to charge the ferry vessels will be equipped with a fire suppression system to reduce the risk of fire. The pier would also include water lines and hose bibs for maintenance activities, as well as fire suppression, if needed. The pier would also be designed to accommodate fire trucks and emergency vehicles in the event of an incident. Additionally, in the event of a fire elsewhere, the project can offer emergency services and act as an alternative evacuation route. For these reasons, the project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, and impacts are less than significant. Note that Section 3.15, *Effects Found Not to be Significant* includes a discussion of wildfire impacts, as it pertains to being located in or near a State Responsibility Area or lands classified as very high fire hazard severity zones.

Mitigation Measures

No mitigation would be required

Level of Significance

Less Than Significant

[53] CalFire. 2025. Fire Hazard Severity Zones in State Responsibility Area. https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008 (accessed February 2025).
[54] CalFire. 2025. City of Berkeley – Alameda County Local Responsibility Area Fire Hazard Severity Zones. As Identified by the Sate Fire Marshall. February 24. https://calfire.app.box.com/s/wahuw9ny7cgn89xpxh7092ur50r1pwvj/file/1785859903146. (accessed February 2026)

3.7.5 Cumulative Impacts

The geographic scope of the cumulative hazards, hazardous materials, and wildfire analysis is the vicinity of the project site. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*) located in Berkeley and surrounding areas in addition to the project site.

Hazardous Materials Release and Exposure Risk

In general, exposure to hazardous materials can cause localized adverse effects; however, a combination of federal, state, and local regulations limit or minimize the potential for exposure to hazardous materials. Cumulative plans and projects listed in Table 3-1 are primarily located within the Berkeley Waterfront and Marina area and include infrastructure upgrades, recreational improvements, and the maximum development potential associated with the Draft Waterfront Specific Plan. Cumulative projects located in this vicinity would be subject to regulations for development in the Berkeley EMAs, would not involve large quantities of hazardous materials or activities that transport or handle hazardous materials, and would not be sited on known hazardous materials sites. In addition, there are no hazardous materials sites or land uses at or in the vicinity of the project site that are known to utilize large quantities of hazardous materials or involve hazardous activities, and there are no schools proximate to the project site that could experience a cumulative hazardous materials exposure. However, cumulative plans and projects may include demolition of structures and infrastructure that have the potential to contain hazardous building materials such as asbestos and lead-based paint. Any cumulative project involving such disturbance would be subject to standard regulatory requirements, including hazardous building materials surveys and compliance with applicable federal and State regulations for asbestos, lead-based paint, and other contaminants, and all applicable environmental health and safety regulations, including those enforced by DTSC, RWQCB, and the City of Berkeley. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to hazardous materials release and exposure risk would be less than significant.

Emergency Response and Evacuation Plans Consistency

The LHMP governs emergency response and evacuation planning at the Berkeley Waterfront and Marina. Cumulative plans and projects listed in Table 3-1 are primarily located within the Berkeley Waterfront and Marina area and include infrastructure upgrades, recreational improvements, and the maximum development potential associated with the Draft Waterfront Specific Plan that in combination with the proposed project would increase the number of visitors to the Berkeley Waterfront. As discussed above under Impact HAZ-5, the project site is located along University Avenue and adjacent to I-80, both of which serve as designated evacuation routes. The LHMP identifies that egress routes in the area are relatively constrained, particularly the segment of University Avenue between Marina Boulevard and West Frontage Road, which serve as the only eastward driving option out of the Berkeley Waterfront.

The project in combination with cumulative development would increase the number of visitors to the area, which represents a potentially significant cumulative impact related to evacuation capabilities.

However, the project would not introduce new permanent residents or inhabitable structures. Rather, the project would bring people to the waterfront for a limited period of time, in order to recreate or to access the ferry. Additionally, to minimize constraints on local egress routes, the Berkeley Emergency Operations Center has updated its evacuation protocols to close I-80 offramps into Berkeley in response to tsunami warnings to prevent additional traffic along these roads. Furthermore, the LHMP identifies the proposed project as an opportunity to improve emergency access at the waterfront by providing a westward evacuation route and supporting emergency water transit operations pursuant to WETA's emergency operations mandate. Given the City's existing protocols to evacuate the Berkeley Waterfront during a tsunami event; given that the project would induce people visiting the project site for a temporary period of time; given that the project would overall improve emergency operations and emergency evacuation; and given that there is some time between an earthquake and when a tsunami hits, the project would not result in a cumulatively considerable contribution to a potentially significant cumulative impact. Therefore, the cumulative impact would be less than significant.

Wildland Exposure and Exacerbation Risk

A combination of federal, state, and local regulations limits or minimize the potential for exposure to wildfires by reducing the amount of development in wildland urban interface areas, ensuring new development is developed according to California Building Code and California Fire Code, and incorporating requirements for fire-safe construction into land use planning.

As discussed above, the proposed project site is located at the Berkeley Waterfront, where the risk of wildfire ignition and spread is relatively low due to its coastal setting and buffers of the San Francisco Bay and I-80. Cumulative projects considered in this analysis (see Table 3-1) are primarily located within the Berkeley Marina and Waterfront area, which is not within or adjacent to a designated Very High Fire Hazard Severity Zone as mapped by CalFire.[55] These cumulative projects, such as dock replacements, restroom and pathway improvements, park enhancements, and the maximum development potential associated with the Draft Waterfront Specific Plan are located in areas that are already developed and do not contain significant levels of dry fuel or topographic conditions conducive to wildland fire spread. Cumulative plans and projects would be located in areas that are already developed and do not contain significant levels of dry fuel susceptible to ignition. Cumulative project construction would adhere to respective city building codes designed to minimize potential for uncontrolled fires. Adherence to respective city building codes would ensure that California Fire Code standards including automatic sprinkler systems are included in development. Given the relatively low risk of wildland fires, as well as compliance with existing regulations by cumulative projects, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to wildfire exposure risk.

Overall Level of Cumulative Significance

Less Than Significant

[55] CalFire. 2025. City of Berkeley – Alameda County Local Responsibility Area Fire Hazard Severity Zones. As Identified by the Sate Fire Marshall. February 24. https://calfire.app.box.com/s/wahuw9ny7cgn89xpxh7092ur50r1pwvj/file/1785859903146. (accessed February 2026)

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3.8 Hydrology and Water Quality

3.8.1 Introduction

This section describes the existing hydrology and water quality setting in the watershed and within the project site and adjacent areas as well as the relevant regulatory framework. This section also evaluates the potential impacts related to surface and groundwater quality, groundwater supplies and recharge, erosion and siltation, flooding, pollutant discharge, and conflict with water quality and groundwater plans that could result from implementation of the proposed project. The information in this section is based, in part, on information from the San Francisco Bay Basin Regional Water Quality Control Board (RWQCB) Water Quality Control Plan (Basin Plan), the San Francisco Bay Region Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, the East Bay Plain Subbasin Groundwater Sustainability Plan (GSP), and the Berkeley Municipal Code.

3.8.2 Environmental Setting

Surface Water Hydrology and Drainage

Definitions

Surface water "hydrology" refers to how water moves across the surface of land, whereas "stormwater" refers to surface flows that occur in response to storm events. The project site is located adjacent to and within the San Francisco Bay (the Bay). The San Francisco Bay Watershed waterways, wetlands, and bays are located within the United States' fourth-largest metropolitan region. The Bay functions as the main drainage outlet for waters of these metropolitan areas.[1]

San Francisco Bay

The Bay is comprised of three distinct hydrographic areas: the South Bay, which extends from the San Francisco Bay Bridge to the southern terminus of the San Francisco Bay in San Jose, the Central Bay which extends from the San Francisco Bay Bridge north to the Richmond-San Rafael Bridge, and the North Bay that connects the Delta and the Pacific Ocean.[2] The project site is located within the Central Bay. Within the Central Bay, several subwatersheds[3] connect to and drain to the San Francisco Bay. As shown in Figure 3.8-1, the area due east of the project site is within the Strawberry Creek Subwatershed, which comprises the main branch and various tributaries that drain the Berkeley hills. Stormwater management and stream channel culverting have altered drainage paths throughout the Strawberry Creek Subwatershed. Strawberry Creek drains to the San Francisco Bay through the eastern portion of the project site via the outlet shown in Figure 3.8-1. The San Francisco Bay Watershed and Strawberry Creek Subwatershed are discussed below.

[1] SFBRWQCB. 2024. Regional Water Quality Control Plan (Basin Plan) Chapters 1–7. Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch1-7_print.html (accessed September 2025).
[2] San Francisco Estuary Institute. n.d. San Francisco Estuary Goals Project Area. San Francisco Estuary Institute. Available: https://www.sfei.org/content/sf_estuary_goals_pjarea (accessed September 2025).
[3] Subwatersheds are areas of land that form a part of a larger watershed. There are many subwatersheds that form part of the larger San Francisco Bay watershed.

Figure 3.8-1 Watershed Flowing into the Project Site



Imagery provided by ESRI and its licensors © 2026. Additional data provided by NHD, 2024; Flood Control & Water Conservation District, 2024.

23-15427 EPS Hydro WQ
Fig X Watershed

The Central Bay is characterized by strong tidal exchange, persistent wind, and complex underwater currents that routinely mobilize fine sediments and contribute to naturally elevated and highly variable turbidity levels. The U.S. Geological Survey has a long-running water-quality monitoring program in San Francisco Bay that tracks turbidity and suspended-sediment concentrations and notes that tidal currents change direction four times daily and wind direction/intensity fluctuate on a daily cycle, contributing to spatial and temporal variability in turbidity throughout the Bay.[4] External factors such as tidal currents, waves, and wind affect water quality alongside freshwater and marine influences. These dynamic hydrodynamic conditions result in frequent resuspension of bottom sediments from wind waves, vessel traffic, and tidal currents, such that background turbidity levels are already influenced by ongoing natural and anthropogenic processes.

San Francisco Bay Watershed

The Bay encompasses approximately 1,600 square miles and is the largest estuary on the west coast of the United States. The primary watershed in the San Francisco Bay Area is the San Francisco Bay Watershed, a 4,600 square mile watershed that drains to the San Francisco Bay and encompasses all or major portions of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. For regulatory purposes, the RWQCB designates hydrologic planning areas. As designated by the RWQCB, the project site is located within the San Francisco Bay Central Planning Area.[5]

Multiple watersheds are tributary to the San Francisco Bay and convey water from the San Joaquin and Sacramento rivers through the Sacramento-San Joaquin Bay Delta, the San Francisco Bay, and into the Pacific Ocean. The watersheds that contribute surface flows to the San Francisco Bay, including the Strawberry Creek Watershed, cover a total area of approximately 75,000 square miles, including the San Francisco Bay Watershed.[6] The Sacramento and San Joaquin rivers, which enter the San Francisco Bay system through the Delta at the eastern end of Suisun Bay, contribute almost all the freshwater inflow to the San Francisco Bay. Suisun Bay is a shallow tidal estuary that lies at the confluence of the Sacramento and San Joaquin Rivers. On its western end, Suisun Bay is drained by the Carquinez Strait, which connects to San Pablo Bay located in the northern portion of the San Francisco Bay. [7]

Strawberry Creek Subwatershed

The project site is located just west of the Strawberry Creek Subwatershed, which is part of the larger San Francisco Bay Watershed. The Strawberry Creek Subwatershed encompasses 3.0 square miles, and flows through the City of Berkeley from Grizzly Peak in the Berkeley Hills down to the San Francisco Bay.[8] The outfall of Strawberry Creek discharges into Central San Francisco Bay at the

[4] U.S. Geological Survey. 2022. Water quality of San Francisco Bay, California, water years 2020–21 (Fact Sheet 2022–3087). U.S. Department of the Interior. Available: https://doi.org/10.3133/fs20223087 (accessed September 2025).
[5] SFBRWQCB. 2024. Basin Plan. Figure 2-2 Hydrologic Planning Areas. Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/fig/fig_2-02.pdf (accessed August 2024).
[6] USEPA. n.d. About the watershed. Available: https://www.epa.gov/sfbay-delta/about-watershed#:~:text=The%20San%20Francisco%20Bay%20watershed,Pacific%20estuary%20in%20the%20Americas (accessed September 2024).
[7] USEPA. n.d. About the watershed. Available: https://www.epa.gov/sfbay-delta/about-watershed#:~:text=The%20San%20Francisco%20Bay%20watershed,Pacific%20estuary%20in%20the%20Americas (accessed September 2024).
[8] Alameda County Flood Control & Water Conservation District. n.d. Strawberry Creek and Schoolhouse Creek Watersheds. Available: https://acfloodcontrol.org/the-work-we-do/resources/strawberry-creek-and-schoolhouse-creek-watersheds/ (accessed September 2025).

eastern end of the project site, as shown in Figure 3.8-1. The Strawberry Creek Subwatershed originates on the western slopes of the Berkeley Hills, where a series of small springs and tributaries, including the prominent North Fork and Hamilton Gulch converge. These waters flow through Strawberry Valley and onto the University of California, Berkeley (UC Berkeley) campus. The North Fork merges with Strawberry Creek at the eucalyptus grove in the campus's center. From this confluence, the creek enters a City culvert at Oxford Street and flows underground, except for a daylighted segment through Strawberry Park, before continuing westward beneath Berkeley until emptying into Central San Francisco Bay near University Avenue.[9]

Project Site

As discussed previously, the project site is adjacent to and discharges to the Strawberry Creek Watershed outfall. The Strawberry Creek discharge point is shown in Figure 3.8-1. The project site lies entirely within the San Francisco Bay coastal zone, where hydrology is dominated by tidal action rather than upland watershed runoff. The immediate water bodies influencing hydrology include the Berkeley Marina Basin, open San Francisco Bay waters to the west and south, and the North and South Sailing Basins within McLaughlin Eastshore State Park. Water elevations and movement in these areas are controlled by twice-daily tidal cycles, wind-driven waves, and, during storm events, additional inflows from upland storm drain systems.

Freshwater inputs to the site's vicinity are minimal and primarily consist of urban stormwater conveyed via storm drain infrastructure along University Avenue, Seawall Drive, and adjacent parking lots. The surrounding shoreline is armored in many places with riprap, bulkheads, and constructed marina facilities, which limit natural bank erosion and sediment transport but focus flows toward existing outfall locations.

Within the project site and adjacent areas, surface water hydrology is defined by existing development and stormwater management, which is provided through operation and maintenance of the existing stormwater drainage system.

Impervious surfaces, including paved parking lots, roadways, sidewalks, and building roofs, produce the majority of runoff. Stormwater generally flows via sheet flow from paved surfaces to curb inlets connected to an underground storm drain network. These storm drains convey runoff to outfalls discharging directly to adjacent Bay waters or marina basins. Landscaped areas (road medians, park edges) provide limited infiltration capacity but are small in area compared to impervious cover. In low-lying areas immediately adjacent to the shoreline, drainage may be influenced by tidal backwater effects during high tides or storm surge events, temporarily slowing discharge from outfalls. Internal pedestrian and bicycle pathways drain laterally toward adjacent landscaped swales or storm drain inlets, ultimately connecting to the same bayfront outfall network. There are existing stormwater management features throughout the project site, including but not limited to the gutters, storm drains and pipelines, as well as vegetated swales and pervious areas built into the existing development and maintained by the City of Berkeley's Streets and Utilities Division.

[9] Alameda County Flood Control & Water Conservation District. n.d. Strawberry Creek and Schoolhouse Creek Watersheds. Available: https://acfloodcontrol.org/the-work-we-do/resources/strawberry-creek-and-schoolhouse-creek-watersheds/ (accessed September 2025).

Jurisdictional Features

Definitions

Jurisdictional features for the San Francisco Regional Water Quality Control Board primarily relate to watersheds and "waters of the State" that include surface waters like rivers, lakes, streams, and wetlands (as defined by State and federal law). Specific watershed and waters of the State boundaries are defined by the California Porter-Cologne Water Quality Control Act and federal Clean Water Act Section 401 and established by the State Water Board for purpose of water quality protection across surface waters within respective hydrologic regions.

Overview

Berkeley is located within the hydrologic jurisdiction of the San Francisco Bay Basin (Region 2) RWQCB, which manages beneficial uses[10] and quality objectives, as well as strategies for achieving these objectives, in accordance with the Basin Plan for the San Francisco Bay Basin.[11] In addition, the RWQCB administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay Basin.

Project Site

As described in Section 3.3, *Biological Resources,* the project site contains approximately 177.62 acres of the San Francisco Bay, a water of the U.S and State subject to the permit requirements of RWQCB pursuant to CWA Section 401 and the Porter-Cologne Act.

Surface Water Quality

The San Francisco Bay Watershed and San Francisco Bay face several water quality issues due to urban runoff, erosion, nutrient overloading, sedimentation, and tidal influences. Various land use activities in these urban areas and inland agricultural areas have resulted in water quality impairments, including the presence of pathogens, bacteria, sediment, trash, pesticides, nutrients, and metals in the San Francisco Bay.[12]

As of December 2024, the 2024 Clean Water Act Section 303(d) list of impaired waters—as included in California's 2024 Integrated Report—has been partially approved by the U.S. Environmental Protection Agency (EPA), which approved most of the listings but disapproved the omission of 53 waterbody-pollutant combinations and is considering their inclusion pending public comments.[13] According to the 2024 303(d) list, Central San Francisco Bay is impaired for chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, dioxin compounds (including 2,3,7,8-TCDD), furan

[10] Beneficial uses are defined as the uses of water necessary for the survival or well being of man, plants and wildlife. These uses of water serve to promote the tangible and intangible economic, social and environmental goals of mankind. Examples include drinking, swimming, industrial and agricultural water supply, and the support of fresh and saline aquatic habitats.
[11] SFBRWQCB. 2024. Regional Water Quality Control Plan (Basin Plan) Chapters 1–7. Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch1-7_print.html (accessed September 2025).
[12] State Water Resources Control Board. 2024. Integrated Report. Available: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2024-integrated-report.html (accessed August 2024).
[13] USEPA. 2024. Partial Approval and Partial Disapproval of California's 2024 List of Impaired Waters under Clean Water Act Section 303(d). Region IX Water Division. December 12. Available: https://www.epa.gov/system/files/documents/2024-12/ca-2024-303d-list-epa-partial-approval-disapproval-2024-12-12.pdf (accessed September 2025).

compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), selenium, and trash. Strawberry Creek is impaired for trash.[14]

San Francisco Bay

CONTAMINANTS AND RUNOFF

The most recent San Francisco Estuary Institute (SFEI) Regional Monitoring Program (RMP) data indicated top known contamination issues being faced in the San Francisco Bay waters include:

- Bacteria levels during and after storm events
- Nutrients, and resulting algal blooms and low oxygen levels
- Mercury and selenium
- Polychlorinated biphenyls (PCBs), dioxin, and furan compounds
- Emerging contaminants, including per- and polyfluoroalkyl substances (PFAS)
- Plastics, including microplastics, bisphenols, and organophosphate esters, and trash

Many of these contaminants, nutrients, and waste reach the Bay via stormwater flows and runoff. The RWQCB has adopted several Total Maximum Daily Loads (TMDLs) for the San Francisco Bay, and tributaries to the San Francisco Bay, that are applicable to the Bay, including TMDLs for mercury, PCBs, and diazinon and pesticide-related toxicity in urban creeks.[15] The City of Berkeley joined other jurisdictions to form the Alameda Countywide Clean Water Program, referred to as the "Alameda Permittees," under the San Francisco Bay Region Municipal Stormwater NPDES Permit (Order No. Order No. R2-2022-0018; NPDES No, CAS612008).[16] The City is tasked with implementing a stormwater program to control stormwater flows and minimize related adverse water quality.

SEDIMENT

Bay sediment quality is a concern, because of the influence the sediment quality can have on the quality of overlying waters. Bay sediment can be a source of and sink for pollutants and trace compounds. Resuspension of sediments can remobilize particulate-bound pollutants into Bay waters. Waste generated from the disturbance of soil at these locations may cause water quality concerns, as discussed in Section 3.7, *Hazards and Hazardous Materials*.

TIDES AND CURRENTS[17]

The Bay is characterized by a mixed semi-diurnal tidal pattern, wherein two high and two low tides occur within a 24-hour period. Tidal currents in the San Francisco Bay are driven primarily by the interaction of oceanic tides and freshwater inflows from the Sacramento and San Joaquin Rivers. These currents can reach high velocities, particularly in the narrow entrance at the Golden Gate. Water levels throughout the San Francisco Bay, including the project site, can fluctuate by 2 meters from mean sea level. The tidal influence extends throughout the San Francisco Bay, with stronger currents near the mouth and progressively weaker flows further inland. Currents play a critical role in sediment transport, salinity distribution, and nutrient mixing across the San Francisco Bay.

[14] State Water Resources Control Board. 2024. Integrated Report. Appendix A: Recommended 2024 303(d) List of Impaired Waters. Available: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2024-integrated-report.html (accessed August 2024).
[15] SFBRWQCB. n.d. *Total Maximum Daily Loads (TMDLs).* Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/ (accessed August 2024).
[16] SFBRWQCB. 2022. Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018 (No. CAS612008). Retrieved September 4, 2025 from https://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2022/R2-2022-0018.pdf (accessed August 2025).
[17] Elias, E., Hansen, J. E., & Erikson, L. H. 2013. San Francisco Bay basic tide model: U.S. Geological Survey data release. Available: https://doi.org/10.5066/F7DN4330 (accessed August 2025).

Additionally, the San Francisco Bay's geomorphology, including its deep channels and shallow mudflats, further modulates tidal flows, creating localized variations in current speed and direction.

Project Site and Adjacent Areas

CONTAMINANTS AND RUNOFF

The beneficial uses of surface water bodies along the project site are listed in Section 3.8.2 under *Surface Water Hydrology*. The Central San Francisco Bay and Strawberry Creek are included in the 303(d) list. The TMDLs adopted by the San Francisco Bay RWQCB for the Bay, and tributaries to the Bay, as detailed above, are applicable to the surface water features within and adjacent to the project site.

SEDIMENT

Based on historical records, land within the project site, south of University Avenue was once open water, and has since been filled with fill materials and soil of unknown origin. The land was built up from at least the 1950s through the 1980s, and the artificial fill materials/soil likely remains within the project site and adjacent land. Twenty-three feet of artificial fill exists at the Marina. Young Bay Mud (YBM) and recent deposits are soft, easily disturbed, and contain shells/organics—sediments that could be resuspended during in-water work.[18] Artificial fill is considered heterogeneous, contains debris, and placed without engineered compaction. Potential for legacy contaminants in fill and bay sediments is implied in material descriptions.

In 2025, sediment sampling and analysis was conducted within five dredge units in the project vicinity in accordance with the Inland Testing Manual,[19] site-specific requirements for proposed reuse sites, and United States Army Corps of Engineers Dredged Material Management Office protocols.[20] Sediment samples obtained in this analysis were found to contain metals, organochlorine pesticides, polynuclear aromatic hydrocarbons, PCBs, and dioxins/furans. However, concentrations of these contaminants did not exceed State or Federal hazardous waste criteria. Although contaminants were present, the concentrations of such contaminants indicate that sediments are not likely to pose significant hazards if managed according to reuse site requirements.

TIDE AND CURRENTS

The Berkeley Waterfront experiences mixed semidiurnal tides, with water levels ranging from approximately +6.8 feet mean lower-low water (MLLW) during average higher-high tide conditions to about +10.3 feet MLLW under 100-year extreme tide events. The design still water level, which accounts for astronomical tides, storm surge, and projected sea level rise through 2075, is estimated at +11.9 feet MLLW. Currents at the site are generally mild with surface velocities averaging approximately 1 knot, primarily driven by tidal exchange rather than persistent wind force. Winds in the region vary seasonally. During autumn and winter months, winds are milder and vary directionally. In spring and summer months, prevailing winds follow a south-southwest pattern and intensify, frequently exceeding 12 knots. By comparison, exposed areas such as San Francisco can

[18] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.
[19] USEPA/USACE. 1998 Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual – Inland Testing Manual. U.S. Environmental Protection Agency/U.S. Army Corps of Engineers. EPA-823-B-94-002. U.S. Environmental Protection Agency, Office of Water (4305).
[20] Pacific EcoRisk. 2025. Characterization of the Sediment from Berkeley Water Transportation Pier Ferry Project: Results of Sediment Sampling and Analysis. September 19.

reach 18 knots, and operational thresholds for ferry service are generally exceeded when winds surpass 20 knots.[21]

Groundwater Levels

Definitions

A groundwater basin is an underground area where water is naturally stored and then slowly moves through layers of soil, sand, and gravel (called aquifers). Groundwater basins provide a buffer during droughts by storing water that replenishes aquifers via permeable materials capable of both holding and yielding groundwater. Groundwater basins are managed to ensure sustainable water supply for communities, businesses, and agriculture.

Santa Clara Valley – East Bay Plain Groundwater Subbasin

The East Bay Plain Subbasin exists within the Santa Clara Groundwater Basin and covers 77,800 acres in Alameda County, and is managed by the East Bay Municipal Utility District Groundwater Sustainability Agency (GSA) and City of Hayward GSA.[22] The Subbasin extends across multiple jurisdictions, including all or portions of the Cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Hayward, Oakland, Piedmont, Richmond, San Leandro, and San Pablo.

The East Bay Plain Subbasin deep aquifer was a key water source for the region from the 1800s through the 1920s, including for industrial areas. By the early 20th century, substantial agricultural development had occurred in the southern portion of the groundwater basin. Since then, the area has undergone extensive urbanization, and East Bay Municipal Utility District has imported surface water to supplement water supplies in the area, now characterized by industrial, commercial, and residential land uses.[23]

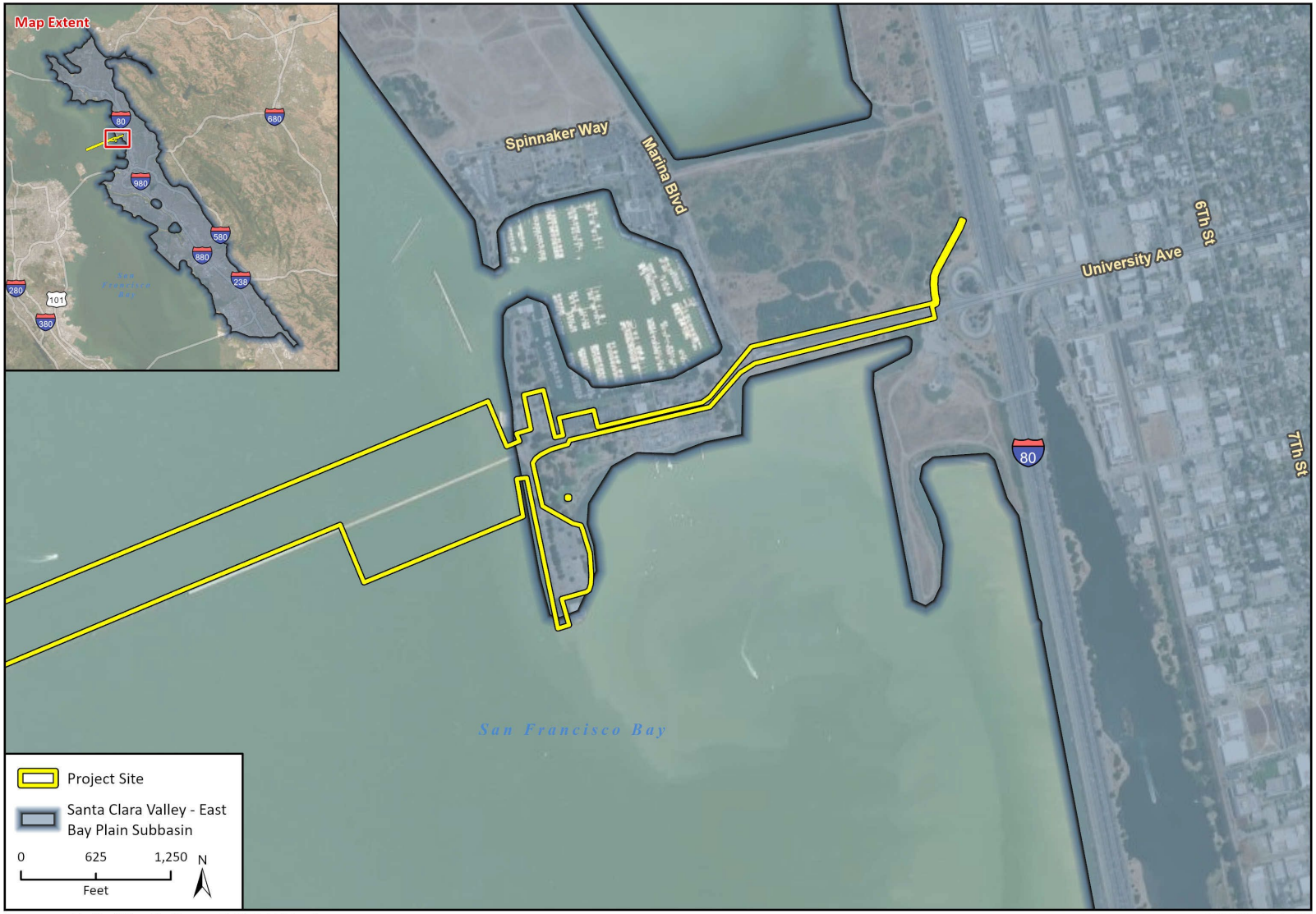
Groundwater pumping in the East Bay Plain Subbasin has decreased over time, groundwater levels are considered stable, and groundwater in the Subbasin is considered sustainable. There are three major aquifer zones within the Subbasin: the Shallow Aquifer Zone, Intermediate Aquifer Zone, and Deep Aquifer Zone (within the southern half of the Subbasin only, outside the project site). Most of the yielding production wells have been constructed within the Deep Aquifer Zone and within the lower portion of the Intermediate Aquifer Zone in the southern portion of the Subbasin. The Shallow Aquifer Zone and upper to middle portions of the Intermediate Aquifer Zone have geologic conditions that typically lead to lower yielding wells.[24] The GSAs are not aware of any customers who solely depend on groundwater for a drinking water supply.[25] No sole source aquifers exist in the region.[26]

Project Site

As shown in Figure 3.8-2, the eastern portion of the project site is located within the northwestern portion of the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. Depth to groundwater at the project site is between 5 and 13.4 feet, depending on exact location and elevation. Fluctuations in the level of groundwater occur as a result of variations in rainfall, irrigation practice, tidal influences, and other variables. Perched groundwater can also result in locally shallower groundwater conditions.[27]

[21] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study. Prepared for City of Berkeley. June.
[22] EBMUD Groundwater Sustainability Agency. 2022. Groundwater Sustainability Plan for the East Bay Plain Subbasin.
[23] EBMUD Groundwater Sustainability Agency. 2022. Groundwater Sustainability Plan for the East Bay Plain Subbasin.
[24] EBMUD Groundwater Sustainability Agency. 2022. Groundwater Sustainability Plan for the East Bay Plain Subbasin.
[25] EBMUD Groundwater Sustainability Agency. 2022. Groundwater Sustainability Plan for the East Bay Plain Subbasin.
[26] USEPA. n.d. Sole Source Aquifers. Available: https://www.epa.gov/dwssa/map-sole-source-aquifer-locations (accessed August 2024).
[27] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

Figure 3.8-2 Groundwater Basin Underlying the Project Site and Adjacent Areas



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23-15427 EPS Hydro WQ
Fig X Groundwater Basin

Groundwater Quality

East Bay Plain Subbasin

Overall groundwater quality in the intermediate aquifer of the East Bay Plain Subbasin is considered of good quality, with contamination of total dissolved solids, chloride, nitrate, arsenic and manganese limited to the shallow aquifer. [28] Major constituents in the Subbasin are as follows:

- **Total Dissolved Solids:** Total dissolved solids have secondary MCLs of 500 mg/L (recommended) and 1,000 mg/L (maximum). In the Subbasin, average concentrations are generally less than 1,000 mg/L, except in localized areas near the San Francisco Bay (primarily in the Shallow Aquifer Zone).
- **Chloride:** Chloride has secondary MCLs of 250 mg/L (recommended) and 500 mg/L (maximum). The distribution of chloride concentrations, potentially serving as an indicator for seawater intrusion, generally have concentrations less than 500 mg/L, except near the San Francisco Bay in the Shallow Aquifer Zone.
- **Nitrate:** Available data for wells in the Intermediate and Deep Aquifer Zones suggest that nitrate levels are below the primary Maximum Contaminant Level (MCL) of 10 mg/L for nitrate.
- **Arsenic:** Most wells with data have arsenic concentrations below the arsenic primary MCL of 10 ug/L; however, there are one or more wells in each depth zone with an average arsenic concentration above the MCL.

Flood Hazard Areas

Definitions and Events

The Federal Emergency Management Agency (FEMA) National Flood Hazard Layer is a geospatial database that contains current effective flood hazard data. Special Flood Hazard Areas are defined to show the extent of flood waters that would occur in response to the magnitude flood that has a one percent chance of occurring in any given year; this is also commonly referred to as the 100-year floodplain or 100-year Flood Hazard Area. FEMA has produced Flood Insurance Rate Maps (FIRMs) covering Alameda County, which define the 100-year Flood Hazard Areas for insurance purposes, and to guide land use planning to consider public and property safety as related to the potential for damage from flood events.

Urban flooding can occur when storm-drains and small channels become obstructed or overwhelmed during intense, short-duration rainfall events. In addition, tsunamis and seiches are two types of water waves that are generated by earthquake events. Tsunamis are broad-wavelength ocean waves, and seiches are standing waves within confined bodies of water, typically reservoirs. Furthermore, the Department of Water Resources Division of Safety of Dams regulates dam safety and evaluates risks associated with potential for inundation resulting from dam failure.

[28] EBMUD Groundwater Sustainability Agency. 2022. Groundwater Sustainability Plan for the East Bay Plain Subbasin.

Project Site and Adjacent Areas

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Nos. 06001C0052H and 06001C0056H, the majority of the landside portion of the project site is located within Zone X, which is area of minimal flood hazard (i.e., not located within a floodplain). As shown in Figure 3.8-3, there are four locations within the landside portion of the project site that are mapped within areas with a 0.2 percent annual chance flood (500-year floodplains).

A portion of the project site is located in a special flood hazard area. As shown on Figure 3.8-3, Central San Francisco Bay within the project site is mapped as "Zone VE" of the 100-year floodplain, which are coastal areas with a 1 percent or greater chance of flooding in any single year and an additional hazard associated with storm waves. Zone VE areas have a 26 percent chance of flooding over a 30-year period.[29] Further offshore, the San Francisco Bay is designated as open water, which is not considered a special flood hazard area.[30]

According to the California Tsunami Maps, the project site is located within an area subject to inundation from tsunami (see Figure 3.8-4).[31] Tsunamis affecting the San Francisco Bay Area can result from offshore earthquakes near the San Francisco Bay Area or from distant events in the Pacific Ocean. Due to the project site's location adjacent to the San Francisco Bay, the project site could experience inundation from tsunami and/or seiche.

According to the State of California Office of Emergency Services inundation maps and emergency plans covering various scenarios of dam failure, the project site is not located within an area subject to inundation dam failure.[32]

[29] FEMA. 2026. Flood Map Service Center. Available: https://msc.fema.gov/portal/search?AddressQuery=Berkeley%20marina (accessed February 2026).
[30] FEMA. 2026. Flood Map Service Center. Available: https://msc.fema.gov/portal/search?AddressQuery=Berkeley%20marina (accessed February 2026).
[31] California Department of Conservation. n.d. San Francisco County Tsunami Hazard Areas. Available: https://www.conservation.ca.gov/cgs/tsunami/maps/san-francisco (accessed August 2024).
[32] Berkeley, City of. 2022. Berkely General Plan Disaster Preparedness and Safety Element. Available: https://berkeleyca.gov/sites/default/files/documents/07_Disaster%20Preparedness%20and%20Safety%20Element-FINAL_0.pdf (accessed August 2024).

Figure 3.8-3 Floodplains Overlapping with and Ajacent to the Project Site



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23-15427 EPS Hydro WQ
Fig X Floodplain

Figure 3.8-4 Tsunami Inundation Zones At and Adjacent to the Project Site



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23-15427 EPS Hydro WQ
Fig X Tsunami Hazard Area

3.8.3 Regulatory Framework

Federal Regulations

Clean Water Act

The Federal Water Pollution Prevention and Control Act of 1948 was the first major law to address water pollution in the United States. In 1972, the Federal Water Pollution Control Act was amended and became known as the Clean Water Act. The Clean Water Act established the basic structure for regulating discharges of pollutants into the waters of the United States with the intent "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Clean Water Act gave the EPA the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the Clean Water Act is administered by the EPA and United States Army Corps of Engineers (USACE).

The federal Clean Water Act places the primary responsibility for the control of water pollution and for the planning of development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs. At the state and regional levels in California, the Clean Water Act is enforced by the State Water Resources Control Board (SWRCB) and the nine RWQCBs.

SECTION 303—WATER QUALITY STANDARDS AND TOTAL MAXIMUM DAILY LOADS (TMDLS)

Section 303(c)(2)(b) of the Clean Water Act (CWA) requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards.

CWA Section 303(d) requires states to develop a list of water quality impaired segments of waterways. The list includes waters that do not meet water quality standards necessary to support a waterway's beneficial uses even after the minimum required levels of pollution control technology have been installed. Listed water bodies are to be priority ranked for development of a TMDL. A TMDL is a calculation of the total maximum daily load (amount) of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The TMDLs include waste load allocations for urban stormwater runoff as well as municipal and industrial wastewater discharges, with allocations apportioned for individual Municipal Separate Storm Sewer Systems (MS4s) and wastewater treatment plants. For stormwater, load reductions would be required to meet the TMDL waste load allocations within the 20 years required by the TMDLs.

The EPA, SWRCB, and RWQCBs are responsible for establishing TMDL waste load allocations and incorporating approved TMDLs into water quality control plans, NPDES permits, and Waste Discharge Requirements in accordance with a specified schedule for completion. The San Francisco Bay RWQCB adopted TMDLs that apply to the City of Berkeley through the Alameda Countywide Clean Water Program.

SECTION 401—WATER QUALITY CERTIFICATION

Section 401 of the Clean Water Act regulates discharges of fill and dredged material to waters of the United States. Under Section 401, the SWRCB and RWQCBs have regulatory authority over actions in waters of the United States through the issuance of water quality certifications, which are issued in conjunction with any federal permit (e.g., permits issued by the USACE under Section 404 of the Clean Water Act, described below). Section 401 provides the SWRCB and the RWQCBs with the regulatory authority to waive, certify, or deny any proposed activity that could result in a discharge to surface waters of the State. To waive or certify an activity, these agencies must find the proposed discharge would comply with State water quality standards, including those protecting beneficial uses and water quality. If these agencies deny the proposed activity, the federal permit cannot be issued.

SECTION 402—NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM PERMIT

Section 402 of the Clean Water Act establishes the NPDES regulations for stormwater and other pollutant discharges. Section 402 prohibits discharge of pollutants to waters of the United States unless they are regulated by an NPDES permit. Stormwater discharges are regulated under a variety of NPDES permits, including municipal, agricultural, industrial, construction, and low-threat discharge permits. In 1987, Congress amended the Clean Water Act to require the implementation of a two-phased program to address stormwater discharges. Phase I of the NPDES program, promulgated by the USEPA in November 1990, requires NPDES permits for stormwater discharges from MS4s serving populations of 100,000 or greater, construction sites disturbing greater than five acres of land, and 10 categories of industrial activities.

The USEPA recognized that smaller construction projects (disturbing less than five acres) and small MS4s (serving populations smaller than 100,000) were also contributing substantially to pollutant discharges nationwide. Therefore, in order to further improve stormwater quality, the USEPA promulgated the NPDES Phase II program in January 2000, which requires NPDES permits for stormwater discharges from regulated small MS4s and for construction sites disturbing between one and five acres of land. In California, the NPDES program is administered by SWRCB through the nine RWQCBs. Further discussion of the NPDES program and permits in California relevant to the project are provided in discussion of state and local regulations, below.

SECTION 404- DISCHARGE OF DREDGE OR FILL

Section 404 of the Clean Water Act requires a permit be issued by USACE before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulations (e.g. farming activities, maintenance activities, construction of temporary sedimentation basins, construction and maintenance of forest roads or temporary mining roads). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands (with the exception of isolated wetlands).

National Flood Insurance Program

FEMA oversees floodplains and administers the National Flood Insurance Program (NFIP) under the National Flood Insurance Act of 1968. The NFIP makes federally subsidized flood insurance available to property owners within communities who participate in the program. FEMA defines areas of special flood hazard, or “Flood Hazard Areas,” as those areas that are subject to inundation by a 100-year flood event, or the magnitude flood with a one percent chance to occur in any given year. Flood Hazard Areas are defined on regulatory flood maps titled Flood Insurance Rate Maps (FIRMs).

The NFIP mandates that development cannot occur within a Flood Hazard Area if it would result in more than a one-foot increase in flood elevation. In addition, development is not allowed in delineated floodways within the regulatory floodplain. Local agencies are responsible for administering their community's floodplain management regulations. The Alameda Flood Control & Water Conservation District manages local storm drain facilities and is responsible for regional flood control planning within Berkeley, California.

State Regulations

Porter-Cologne Water Quality Control Act

California's primary statute governing water quality and water pollution is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and nine RWQCBs broad powers to protect water quality and is the primary vehicle for the implementation of the Clean Water Act in California. The Porter-Cologne Act grants the SWRCB and RWQCBs the authority and responsibility to adopt plans and policies, regulate discharges to surface water and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, oil, or petroleum product. Each RWQCB must adopt and implement a Water Quality Control Plan (Basin Plan) for its region in conformance with the policies set forth in the Porter-Cologne Act.

California Toxics Rule and State Implementation Policy

The California Toxics Rule, adopted in 2000, established numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The California Toxics Rule criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are on the CWA Section 303(c) list for contaminants. The California Toxics Rule includes criteria for the protection of aquatic life and human health. Human health criteria (water- and organism-based) apply to all waters with a Municipal and Domestic Water Supply beneficial use designation as indicated in the Basin Plans. The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the State Implementation Policy, was adopted by the SWRCB in 2000. It establishes provisions for translating the California Toxics Rule criteria, National Toxics Rule criteria, and Basin Plan water quality objectives for toxic pollutants into:

- NPDES permit effluent limits;
- Effluent compliance determinations;
- Monitoring for 2,3,7,8-tcdd (dioxin) and its toxic equivalents;
- Chronic (long-term) toxicity control provisions;
- Site-specific water quality objectives; and
- Granting of effluent compliance exceptions.

The goal of the State Implementation Plan is to establish a standardized approach for permitting discharges of toxic effluent to inland surface waters, enclosed bays, and estuaries.

Antidegradation Policy

The State Antidegradation Policy (Resolution No. 68-16) was adopted by SWRCB in 1968 to protect surface water and groundwater from degradation. The Antidegradation Policy applies to the disposal of waste to high-quality surface water and groundwater. The Antidegradation Policy requires the water quality of these water bodies to be maintained unless SWRCB finds the change will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses of the waters, and will not result in water quality less than that prescribed in policies regulating water quality. The Antidegradation Policy also requires the best practicable treatment or control of discharges to high-quality waters to assure pollution or nuisance will not occur and the highest possible water quality will be maintained.

Construction Stormwater General Permit

The California Construction Stormwater Permit (Order WQ 2022-0057-DWQ; NPDES No. CAS000002) regulates construction activities that disturb at least one acre of land, authorizing stormwater discharges to surface waters while prohibiting non-stormwater discharges and hazardous substances above regulatory limits. Project proponents must complete a risk assessment, eliminate or reduce non-stormwater discharges, and develop a Stormwater Pollution Prevention Plan (SWPPP) detailing Best Management Practices (BMPs) to minimize pollution. To obtain coverage under the NPDES permit, project proponents must electronically file permit registration documents, including a Notice of Intent, risk assessment, site map, SWPPP, and fee, with the SWRCB before construction begins. The SWPPP must include erosion control measures, sediment control, pollutant management, and post-construction runoff management, along with a program for BMP inspection and maintenance.

Attachment J establishes specific requirements for construction dewatering discharges, including authorization for pumping or siphoning groundwater or stormwater from excavations and foundations; compliance with receiving water limitations; monitoring for pH (6.5–8.5) and turbidity (≤250 Nephelometric Turbidity Unit) during discharges; and the ability to halt dewatering if numeric action levels are exceeded. The Construction Stormwater General Permit also requires notification to the Regional Water Board prior to dewatering, incorporation of BMPs to minimize pollutant mobilization, and timely SWPPP updates.[33]

California Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), enacted in September 2014, establishes a framework for sustainable management of California's groundwater over a 50-year planning horizon, ensuring groundwater use without causing undesirable results. SGMA requires the creation of Groundwater Sustainability Agencies (GSAs) by local agencies to oversee designated groundwater basins or subbasins. High and medium priority basins must develop Groundwater Sustainability Plans (GSPs), with the Department of Water Resources providing regulations for evaluating these plans and reviewing compliance every five years. The East Bay Plain Subbasin, which underlies the project area is designated by California Department of Water Resources as Medium Priority.[34] The East Bay Municipal Utilities District and City of Hayward are the water providers that lie atop the East Bay Plain Subbasin and serve as the GSA for the subbasin.

[33] State Water Resources Control Board. 2022. Construction General Permit, Attachment J Dewatering Requirements.
[34] California Department of Water Resources. n.d. SGMA Basin Prioritization Dashboard. Available: https://gis.water.ca.gov/app/bp-dashboard/final/ (accessed August 2025).

As a Medium Priority basin, a GSP was developed by the East Bay Municipal Utility District and the City of Hayward for the East Bay Plain Subbasin in 2022.[35] The GSP Plan Area lies within the boundaries of Contra Costa and Alameda counties, including all or portions of the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Hayward, Oakland, Piedmont, Richmond, San Leandro, and San Pablo. SGMA also allows local agencies to propose revisions to basin boundaries, establishes BMPs and technical standards for GSPs, and grants the SWRCB authority to implement interim monitoring programs in cases of non-compliance.

Regional and Local Regulations

RWQCB Water Quality Control Plan (Basin Plan)

The Basin Plan, developed by the RWQCB, delineates beneficial uses of surface waters, groundwaters, wetlands, and estuaries within the region, including drinking water supply, aquatic life habitat, and recreational activities. To maintain these uses, the plan establishes specific water quality objectives, which include limits on pollutants such as nutrients, heavy metals, and organic chemicals, as well as physical parameters like temperature and turbidity. The Basin Plan integrates TMDLs for various pollutants, addressing sources such as urban runoff, agricultural activities, and industrial discharges. It also establishes implementation programs that include permitting processes, enforcement mechanisms, and guidelines for monitoring and assessment to ensure compliance with state and federal water quality standards. Additionally, the plan incorporates strategies for managing non-point source pollution, controlling stormwater runoff, and restoring impaired water bodies.

As designated in the Basin Plan, the existing beneficial uses for the Central San Francisco Bay are industrial service supply (IND), industrial process supply (PROC), commercial and sport fishing (COMM), shell fish harvesting (SHELL), estuarine habitat (EST), fish migration (MIGR), preservation of rare and endangered species (RARE), fish spawning (SPWN), wildlife habitat (WILD), water contract recreation (REC-1), non-contact water recreation (REC-2), and navigation (NAV). Beneficial uses of Strawberry Creek include warm freshwater habitat (WARM), wildlife habitat (WILD), water contract recreation (REC-1), non-contact water recreation (REC-2). The existing beneficial uses for the East Bay Plain Subbasin are Municipal and domestic water supply (MUN), industrial service supply (IND), industrial process supply (PROC), and agricultural water supply (AGR).[36]

Water quality objectives for surface and ground waters relevant to the proposed project and project area, which include the enclosed San Francisco Bay, include those listed in Table 3.8-1 and Table 3.8-2. [37]

[35] EBMUD Groundwater Sustainability Agency. 2022. Groundwater Sustainability Plan for the East Bay Plain Subbasin.
[36] SFBRWQCB. 2024. Regional Water Quality Control Plan (Basin Plan) Chapters 1–7. Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch1-7_print.html (accessed September 2025).
[37] SFBRWQCB. 2024. Basin Plan. Chapter 2 Beneficial Uses. Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/ADA_compliant/BP_chapter_2.pdf. (accessed February 2026).

Table 3.8-1 Water Quality Objectives for Surface Waters[38]

Constituent/Factor	Objective
Arsenic	36 ugl 4 day average, 69 ug/L 1 hour average
Bacteria	For SHELL beneficial uses: median <14 90th percentile <43 most probable number (MPN)/100 mL for fecal coliform; median <70 90th percentile <230 MPN/100 mL total coliform For REC-1 beneficial uses: geometric mean < 30 STV < 110 CFU/100 mL for enterococcus; geometric mean < 100 STV < 320 E. coli CFU/100 ml For REC-2: geometric mean < 20 MPN/100 mL for fecal coliform; geometric mean <100 MPN/100 mL for total coliform.
Bioaccumulation	Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life.
Biostimulatory Substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Cadmium	9.3 µg/L 4-day average, 42 µg/L 1-hour average
Chromium VI	50 µg/L 4-day average, 1100 µg/L 1-hour average
Color	Waters free of coloration that causes nuisance or adverse effects.
Copper	6.0 4-day average, 9.4 1-hr average
Cyanide	2.9 ug/l 4 day average, 9.4 1 hour average
Dissolved Oxygen (DO)	San Francisco Bay downstream Carquinez Bridge: 5.0 mg/L minimum
Floating Material	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
Lead	8.1 µg/L 4-day average, 210 µg/L 1-hour average
Mercury	0.025 µg/L 4-day average, 2.1 µg/L 1-hour average; 0.2 mg/kg fish tissue (human health, edible portion of trophic level 3–4 fish); 0.03 mg/kg fish tissue (aquatic organisms & wildlife, whole fish 3–5 cm)
Nickel	8.2 µg/L 4-day average, 74 µg/L 1-hour average
Oil & Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
Population & Community Ecology	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors. No toxic substances causing lethal or significant ecological changes. Aquatic life history should not differ significantly from natural areas.
PAHs	15 µg/L 24-hour average
pH	The pH shall not be depressed below 6.5 nor raised above 8.5. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels
Radioactivity	Radionuclides shall not be present in concentrations that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

[38] SFBRWQCB. 2024. Regional Water Quality Control Plan (Basin Plan) Chapters 1–7. Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch1-7_print.html (accessed September 2025).

Constituent/Factor	Objective
Salinity	Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat. No controllable increase that adversely affects beneficial uses.
Silver	1.9 µg/L 1-hour average
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.
Settleable Material	Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses. No deposition causing nuisance or adverse effects.
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses. No concentrations causing nuisance or adverse effects.
Sulfide	All water shall be free from dissolved sulfide concentrations above natural background levels. Sulfide occurs in Bay muds as a result of bacterial action on organic matter in an anaerobic environment. Free from dissolved sulfide above natural background. Odor/toxic at hundredths of mg/L; tied to DO objectives.
Tastes & Odors	Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses. None causing undesirable fish flesh/edible product taint, nuisance, or adverse effects.
Temperature	For enclosed bays: Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses. The maximum temperature of waste discharges shall not exceed the natural temperature of the receiving waters by more than 5°F. Enclosed bays/estuaries: as in California Thermal Plan. Inland surface waters: no alteration causing adverse effects. Cold/warm freshwater habitat: ≤ 5°F (2.8°C) above natural temperature.an 20 °F. Thermal waste discharges having a maximum temperature greater than 4°F above the natural temperature of the receiving water are prohibited.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. Acute toxicity is defined as a median of less than 90 percent survival, or less than 70 percent survival, 10 percent of the time, of test organisms in a 96-hour static or continuous flow test. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. No acute toxicity (≥ 90% survival median; ≥ 70% survival 90% of time, in 96-hr tests). No chronic toxicity (growth, reproduction, development, abundance, community effects). Determined by tests, species diversity, density, anomalies.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU. No nuisance or adverse effects. Waste-related increases ≤ 10% where natural turbidity > 50 NTU.
Un-ionized Ammonia	Annual median: 0.025 mg/L as N. Maximum: 0.16 mg/L for (Central San Francisco Bay Bay/upstream). Maximum: 0.40 mg/L (Lower Bay).
Zinc	81 µg/L 4-day average, 90 µg/L 1-hour average

Table 3.8-2 Water Quality Objectives for Groundwater

Constituent/Factor	Objective and Applicability
Bacteria	For MUN beneficial use, <1.1 MPN/100 mL for total coliform.
Organic & Inorganic Chemical Constituents	Groundwater shall be free of chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, groundwater with a MUN designation shall not exceed the maximum contaminant levels (MCLs) or secondary maximum contaminant levels (SMCLs) in Title 22: ▪ Table 64431-A (Inorganic Chemicals) ▪ Table 64433.2-A (Fluoride) ▪ Table 64444-A (Organic Chemicals) For agricultural supply (AGR), concentrations shall not exceed levels in Table 3-6 of the Basin Plan.
Radioactivity	Groundwater designated for MUN use shall not contain concentrations of radionuclides in excess of the MCLs specified in Table 4 (Radioactivity) of Title 22, Section 64443.
Taste & Odor	Groundwater designated for MUN use shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. At a minimum, such groundwater shall not exceed the secondary MCLs in Title 22: ▪ Table 64449-A (Consumer Acceptance Limits) ▪ Table 64449-B (Ranges). Incorporation-by-reference is prospective, covering future revisions.

Alameda Countywide Clean Water Program

The Alameda Countywide Clean Water Program (ACCWP) is a joint initiative of 17 local agencies—including Alameda County, its 14 cities, the Alameda County Flood Control and Water Conservation District, and Zone 7 Water Agency—working together to reduce stormwater pollution and protect the region's creeks, wetlands, and the San Francisco Bay. The program was established to support compliance with the federal Clean Water Act and NPDES stormwater permit issued by the San Francisco Bay Regional Water Quality Control Board. [39]

ACCWP focuses on a range of activities including public education, pollution prevention, municipal operations support, construction site oversight, and water quality monitoring. The program promotes Low Impact Development (LID) strategies, supports green infrastructure planning, and engages residents and businesses to prevent pollutants like trash, oil, pesticides, and heavy metals from entering storm drains.

Regional Shoreline Adaptation Plan

The Regional Shoreline Adaptation Plan (RSAP) was prepared pursuant to Senate Bill 272 (SB 272), which directed the San Francisco Bay Conservation and Development Commission (BCDC) to develop guidelines for local governments to use in addressing the anticipated impacts of sea level rise along the San Francisco Bay shoreline. The RSAP establishes a coordinated framework to guide adaptation actions that support the long-term resilience of Bay Area communities, infrastructure, and ecosystems in the face of rising sea levels. The RSAP was adopted by the BCDC Commission in December 2024.[40]

[39] Alameda Countywide Clean Water Program. n.d. Alameda Countywide Clean Water Program. Available: https://cleanwaterprogram.org/ (accessed April 2025).
[40] Bay Adapt. n.d. Regional Shoreline Adaptation Plan. Available: https://www.bayadapt.org/regional-shoreline-adaptation-plan/ (accessed August 2025).

McAteer-Petris Act

The McAteer-Petris Act (Public Resources Code 66600 et seq.) is implemented by the San Francisco Bay Conservation and Development Commission (BCDC). This act directs BCDC to exercise its authority to issue or deny permit applications for placing fill, extracting minerals, or changing the use of any land, water, or structure within the area of its jurisdiction (the Bay waters and a 100-foot-wide shoreline band inland from the high tide line). The BCDC also carries out determinations of consistency with the Federal Coastal Zone Protection Act for federally sponsored projects.

San Francisco Bay Region Municipal Regional Stormwater NPDES Permit

The San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Municipal Regional Stormwater Permit; Order No. R2-2022-0018; NPDES No, CAS612008) is issued by the San Francisco RWQCB for the San Francisco Bay Region.[41] Its purpose is to establish waste discharge requirements and permit conditions for the discharge of stormwater runoff from municipal separate storm sewer systems (MS4s) operated by various cities and counties in the San Francisco Bay region. The City of Berkeley, in partnership with other municipal governments in Alameda County, is a participant in the Alameda Countywide Clean Water Program, collectively referred to as the "Alameda Permittees."[42] The Alameda Permittees submitted a joint application to continue adhering to waste discharge requirements under their NPDES permit to discharge from storm drains and watercourses within the Alameda Permittee jurisdictions. The permit aims to regulate stormwater discharges to protect water quality, comply with the Clean Water Act, and address pollutants such as mercury, PCBs, pesticides, trash, and other contaminants that could harm the San Francisco Bay and surrounding water bodies.[43]

Provision C.3 of the Municipal Regional Stormwater NPDES Permit requires that new development and significant redevelopment project include appropriate source control, site design, and stormwater treatment measures to address stormwater runoff pollutant discharges and prevent runoff flows from new development and redevelopment projects. LID methods are to be the primary mechanism for achieving such aims.

Permit Provision C.3 b.ii designates that uncovered parking lots that create or replace 5,000 square feet or more of impervious surface are a regulated project under the permit. Various exceptions exist for certain practices, which include overlaying existing concrete or asphalt with new material to a shallow depth, without expanding the area of coverage.

Municipal Regional Stormwater Permit Technical Guidance Manual

The Technical Guidance Manual for Alameda County provides detailed instructions and standards for the implementation of stormwater management practices required to comply with the Municipal Regional Stormwater NPDES Permit. The manual's primary purpose is to guide municipalities, developers, engineers, and planners in designing, constructing, and maintaining stormwater control measures that comply with the stringent water quality standards set by the

[41] SFBRWQCB. 2022. Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018 (No. CAS612008). California Regional Water Quality Control Board, San Francisco Bay Region. Available: https://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2022/R2-2022-0018.pdf (accessed September 2025).
[42] SFBRWQCB. 2022. Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018 (No. CAS612008). California Regional Water Quality Control Board, San Francisco Bay Region. Available: https://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2022/R2-2022-0018.pdf (accessed September 2025).
[43] SFBRWQCB. 2022. Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018 (No. CAS612008). California Regional Water Quality Control Board, San Francisco Bay Region. Available: https://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2022/R2-2022-0018.pdf (accessed September 2025).

Municipal Regional Stormwater NPDES Permit. The manual covers design and sizing of LID features like bioretention systems, permeable pavements, and green roofs, which are essential for minimizing the volume and improving the quality of stormwater runoff. It also provides detailed guidance on hydromodification management, which involves controlling the flow and volume of runoff to prevent erosion and protect stream channels. The manual also serves as a key reference for compliance documentation, helping municipalities and developers demonstrate that their projects meet the regulatory requirements of the Municipal Regional Stormwater NPDES Permit.

2023 Manual for the San Francisco Bay Area Hydrology Model (BAHM)

The BAHM Manual provides a framework for simulating and managing stormwater runoff in urban and suburban areas within the San Francisco Bay Area. This tool is designed to support compliance with the Municipal Regional Permit by helping engineers, planners, and developers design stormwater management systems that effectively mimic natural hydrology. The manual covers the model's application for sizing detention and retention facilities, such as bioretention cells and infiltration basins, to control peak flows and maintain pre-development hydrologic conditions. It includes updated methodologies for hydrologic analysis, including rainfall-runoff modeling, flow duration analysis, and the assessment of hydromodification impacts on local streams. The 2023 edition also incorporates new climate data and improved algorithms to enhance the accuracy of predictions, addressing challenges such as increased storm intensity and variability due to climate change.

San Francisco Bay Plan

The San Francisco Bay Plan is the guiding policy document for the BCDC codified by the McAteer-Petris Act. The plan includes policies to ensure water quality in San Francisco Bay is maintained at levels sufficient for the protection and beneficial use of San Francisco Bay. For additional information about pertinent policies, please refer to Section 3.9, *Land Use and Planning.*

East Bay Plain Subbasin Groundwater Sustainability Plan

The East Bay Plain Subbasin GSP was prepared by the East Bay Municipal Utility District GSA and City of Hayward GSA. The GSP is a comprehensive framework designed to ensure the long-term sustainability of groundwater resources in the East Bay Plain Subbasin, which underlies portions of Alameda and Contra Costa Counties. The GSP includes strategies to balance groundwater extraction with natural recharge, prevent seawater intrusion, and protect water quality, adhering to the requirements of the SGMA. The plan includes detailed hydrogeological assessments, water budget analyses, and monitoring protocols to track groundwater levels, subsidence, and water quality. It also identifies management actions, such as demand management, artificial recharge projects, and regulatory measures, to mitigate overdraft and maintain a sustainable yield that supports both current and future water demands while safeguarding the ecological and economic health of the region.[44]

Berkeley Municipal Code

The Berkeley Municipal Code sets forth a code of ordinances associated with hydrology and water quality.

[44] EBMUD Groundwater Sustainability Agency. 2022.3for the East Bay Plain Subbasin.

- **Chapter 17.08 – Preservation and Restoration of Natural Watercourses.** Establishes the requirements for construction near creeks and natural waterways, to ensure waterways are not obstructed.
- **Chapter 17.12 - Flood Zone Development** aims to protect human life and health while enhancing public safety and welfare by regulating land use in flood-prone, mudslide, and erosion areas. Its specific objectives include reducing public expenditure on flood control, minimizing rescue and relief costs, limiting business interruptions, protecting public utilities and infrastructure, preserving the tax base through sound land use, informing potential property buyers about flood risks, and ensuring occupants take responsibility for their actions. The regulations focus on restricting hazardous uses, protecting flood-vulnerable facilities, controlling alterations to natural floodplains and protective barriers, managing development that may exacerbate flood damage, and regulating flood barriers to prevent increased hazards elsewhere.
- **Chapter 17.20 – Reduction of Stormwater Pollution** aims to eliminate non-stormwater discharges to the City's storm drain system and by reducing the contamination of stormwater by pollutants to the maximum extent practicable. The intent of the chapter is to protect the water quality of the City's watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act.

Berkeley General Plan

Berkeley's General Plan, adopted on April 23, 2002, serves as a comprehensive, long-range framework to guide public decision-making regarding the city's physical development. It encompasses goals, objectives, and policies that inform decisions by the City Council, advisory boards, and commissions on land use changes, funding allocations, and development regulations. The Plan guides development as it relates to land use, transportation, housing, disaster preparedness and safety, open space and recreation, environmental management, and other priority issue areas. The Plan's policies apply to all properties within Berkeley's city limits, both public and private, and are utilized by entities such as the Planning Commission and Zoning Adjustments Board to ensure that development proposals align with the city's vision.[45]

Relevant sections to the proposed project include the Land Use Element, the Open Space & Recreation Element, and the Environmental Management section. Policies in the General Plan that are aligned with the proposed project include:

Policy EM-23 Water Quality in Creeks and San Francisco Bay.

Take action to improve water quality in creeks and San Francisco Bay.

Policy EM-24 Sewers and Storm Sewers.

Protect and improve water quality by improving the citywide sewer system. Actions:

A. Adequately fund sewer system improvements necessary to maintain water quality in natural areas and reduce public health hazards.

Policy EM-27 Creeks and Watershed Management.

Whenever feasible, daylight creeks by removing culverts, underground pipes, and obstructions to fish and animal migrations. Actions:

[45] Berkeley, City of. 2002. Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan (accessed June 2025).

F. Work in cooperation with adjoining jurisdictions to jointly undertake creek and wetland restoration projects, to improve water quality and wildlife habitat, to allow people to enjoy creeks as part of urban open space, and to create creek-side transportation corridors for pedestrians and bicycles, as described in the 1995 Joint Watershed Goals Statement.

G. Regulate new development within 30 feet of an exposed streambed as required by the Creeks Ordinance and minimize impacts on water quality and ensure proper handling of stormwater runoff by requiring a careful review of any public or private development or improvement project proposed in water sensitive areas.

3.8.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 *CEQA Guidelines* Appendix G significance criteria questions related to hydrology and water quality.

Would the proposed project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
   i. result in a substantial erosion or siltation on- or off-site?
   ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?
   iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
   iv. impede or redirect flood flows?

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Approach to Analysis

Hydrology and Water Quality

Impacts related to hydrology and water quality were determined by comparing the activities and future built conditions that would be facilitated by the proposed project to the existing (baseline) environmental conditions for hydrology and water quality, as characterized above in Section 3.8.2, *Environmental Setting*. Impact characterizations were informed through review of information regarding regional and local surface water, groundwater, and flooding conditions contained in available sources of information, including but not limited to the San Francisco Bay RWQCB Basin Plan, East Bay Plain Subbasin Groundwater GSP, and FEMA FIRMs, as well as site-specific and plan-specific features.

The impact evaluation focuses on effects on surface and groundwater quality, groundwater supply and drainage (erosion, siltation, flooding, stormwater system exceedance, polluted runoff), and flooding (flood flows and release of pollutants due to inundation). Water quality impacts were assessed based on water quality standards, existing impairments, potential contaminants generated by the project, and stormwater treatment requirements. Project impacts to hydrology and water quality are evaluated based on the project's adherence to local, state, and federal standards; the nature of proposed soil disturbance, construction activities, and groundwater dewatering during construction; the change in land use and proposed operational activities; changes in pre- and post-project stormwater flows; changes in impervious surfaces, and proposed operational BMPs for control of surface runoff and reduction of pollutants in stormwater runoff.

San Francisco Bay is impaired for chlordane, Dichloro-Diphenyl-Trichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, PCBs, selenium, and trash and Strawberry Creek is impaired for trash. Impacts related to invasive species are discussed in Section 3.3, *Biological Resources,* and is not discussed further in this section. The use of pesticides containing chlordane, DDT, and dieldrin are banned in the United States. The proposed project would not involve use of these chemicals, and testing of sediment in San Francisco Bay did not detect these chemicals in high concentrations.[46] Therefore, the analysis focuses on the project's potential to contribute to the existing mercury, PCB, selenium, dioxins, furans, and trash impairments.

Depth to groundwater and the need for groundwater extraction during construction and operation was assessed to determine potential groundwater impacts. Inundation and flooding are assessed by reviewing potential inundation zone maps and data relative to structures that would be constructed as part of the proposed project.

Topics not covered in the following impact analysis include water supply availability and adequacy of wastewater conveyance and treatment infrastructure, which are discussed in Section 3.14, *Utilities and Service Systems*. In addition, impacts related to wetlands and waters of the United States are discussed in Section 3.3, *Biological Resources*.

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to various concerns regarding hydrology and water quality.

Scoping comments included comments related to groundwater dynamics, water quality, sediment control, flooding, stormwater catchment, and sea level rise. Water quality regulations including the RWQCB Basin Plan, Clean Water Act and NPDES program are presented in Section 3.8.3, *Regulatory Framework*, and addressed under Section 3.8.4 *Impacts Analysis.* Water quality objectives and best management practices related to sedimentation are addressed in Impact HYD-1. Groundwater quality and quantity is addressed under Impact HYD-2. Stormwater runoff and erosion potential are discussed in Impact HYD-3. Sea level rise concerns are addressed in Impact HYD-4. Alignment with existing plans is addressed in Impact HYD-5.

[46] Pacific EcoRisk. 2025. Characterization of the Sediment from Berkeley Water Transportation Pier Ferry Project: Results of Sediment Sampling and Analysis. September 19.

Specific Thresholds of Significance

For purposes of the following impact analysis, the following thresholds are used to evaluate the significance of hydrology and water quality impacts resulting from implementation of the proposed project.

- Violate any surface water or groundwater quality standards or waste discharge requirements, or conflict with the San Francisco Bay Basin Plan, in a way that would:
  - Result in an exceedance of a water quality objective, specified in the Basin Plan and shown in Table 3.8-1 or Table 3.8-2, in a manner that would impair beneficial uses; or
  - Discharge a pollutant that the water body (i.e., San Francisco Bay) is listed as impaired with on the 303(d) list (see *Surface Water Quality* subsection in Section 3.8.2, *Environmental Setting*).
- Interfere with implementation of the East Bay Plain Subbasin GSP, or deplete groundwater supplies or recharge, or conflict with the Subbasin GSP in a way that would obstruct sustainable management of groundwater.
- Alter an existing drainage pattern through alteration of the course of Strawberry Creek or increased impervious surfaces and resulting in on-site or off-site:
  - Erosion;
  - Siltation; or
  - Flooding.
- Create or contribute new runoff water that would exceed the capacity of existing or planned stormwater management infrastructure.
- Interfere with floodplain management in a way that would reduce coastal resilience to flooding related to storm surge and/or sea level rise.
- Release pollutants due to project inundation associated with flood hazard, tsunami, or seiche.

Surface Water Quality and Groundwater Quality

Significance Criterion a:	Would the proposed project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Impact HYD-1 DUE TO THE FOCUSED AND LIMITED CONSTRUCTION ELEMENTS AND SHORT DURATION OF PROJECT CONSTRUCTION, THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY DEGRADE SURFACE OR GROUNDWATER QUALITY, CONTRIBUTE MEANINGFULLY TO EXISTING WATER QUALITY IMPAIRMENTS, OR RESULT IN EXCEEDANCES OF APPLICABLE WATER QUALITY OBJECTIVES OR WASTE DISCHARGE REQUIREMENTS. WATER QUALITY IMPACTS RELATED TO PIER DEMOLITION WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Construction

LANDSIDE CONSTRUCTION SURFACE WATER QUALITY

Construction activities associated with the project — such as pavement removal, demolition, grading and excavation, filling and compaction, and construction of project elements including

utility upgrades and parking lot or pathway modifications — have the potential to degrade water quality by disturbing soil and increasing spill risk and trash generation. During periods of heavy rain or high winds, disturbance of soils from excavation, grading, or other construction activities, including those within designated staging areas, could elevate the risk of erosion and sediment transport. Stormwater runoff or wind could convey exposed or eroded sediments into the storm drain system or directly into San Francisco Bay. Sedimentation in receiving waters can impair water quality by reducing light penetration, interfering with photosynthesis and oxygen exchange, and disrupting the respiration, growth, and reproduction of aquatic organisms. Sediments may also serve as a transport medium for other pollutants, including nutrients, trace metals, and hydrocarbons, which could contribute to additional degradation of water quality. Trash generated during construction could contribute to the existing trash impairments in San Francisco Bay and Strawberry Creek. Impacts on Strawberry Creek culvert and outfall would be avoided to the extent practicable, given that work in this area would be limited to the undergrounding of an electrical conduit.

As discussed in Section 3.7, *Hazards and Hazardous Materials,* in the discussion labeled *Soil Contaminants at the Project Site*, elevated concentrations of aerially-deposited lead may be present along existing roadways, including those near the eastern portion of the project site, near I-80. Soil along the eastern boundary of the project site may contain concentrations of lead exceeding state regulatory thresholds, and any waste generated from the disturbance of soil in these locations may be regulated as a non-hazardous or hazardous waste. Disturbance of these soils could transport lead to receiving waters.

In addition to pollutant contributions from disturbed soils, the delivery, handling, and storage of construction materials and wastes, as well as the operation of construction equipment, could increase the potential for stormwater contamination. Spills or leaks from heavy equipment and machinery could introduce oil and grease into surface runoff; hydrocarbon compounds associated with such pollutants can be toxic to aquatic organisms at relatively low concentrations. Staging areas and active construction sites could also generate pollutants from the use of paints, solvents, cleaning agents, and metals. Excavated materials could contain hazardous substances that, if exposed to stormwater, could be transported into the San Francisco Bay. Larger pollutants such as trash, debris, and organic matter are also commonly associated with construction disturbance. Furthermore, concrete used for structural work, footings, and paving could contribute to elevated pH or other water quality issues if spilled or improperly managed. Therefore, landside construction activities associated with the project could result in violations of water quality standards or waste discharge requirements.

However, project construction would be subject to regulatory requirements intended to minimize erosion and siltation and other construction-related pollutants. These include preparation of a SWPPP and implementation of BMPs in accordance with the State Water Resources Control Board's Construction Stormwater General Permit. BMPs would include, but not be limited to, erosion controls, sediment containment measures, stabilization of disturbed soils, trash management, and spill prevention protocols. Compliance with the Construction Stormwater General Permit, as well as implementation of the required SWPPP and construction BMPs would minimize pollutant discharge in stormwater runoff. With compliance with existing regulations, project construction would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality. Therefore, landside construction impacts related to surface water quality would be less than significant.

LANDSIDE CONSTRUCTION GROUNDWATER QUALITY

Where groundwater dewatering is necessary, it would be limited to trench sumps and short-term pumping to control localized groundwater intrusion. Project construction activities such as excavation, grading, and utility installation involve temporary disturbance of soils and the use of construction equipment, though most of the project area is paved and highly developed, with limited connection to deeper regional aquifers.

Geotechnical investigations conducted for the project indicate that shallow perched groundwater may be encountered at elevations several feet above high tide, particularly below elevation 6.5 feet, and that perched water on clay within the fill materials should be anticipated during subsurface utility construction.[47] Therefore, while dewatering of the deeper aquifer would not be required, localized groundwater dewatering is anticipated during construction where perched groundwater or tidally influenced shallow groundwater is encountered during excavation activities. Localized pumping from sumps within trenches may be necessary to keep excavations dry.

If not properly managed, dewatering effluent could discharge to Strawberry Creek or San Francisco Bay, carrying suspended sediments, turbidity, or residual contaminants. Such discharges could temporarily degrade surface water quality by reducing light penetration, altering dissolved oxygen levels, and impairing aquatic habitat. Dewatering flows would be subject to the Construction Stormwater General Permit requirements and would require testing and treatment, if needed (such as sediment filtration, settling tanks, or controlled discharge to designated facilities), to meet the water quality limitations specified in the Construction Stormwater General Permit prior to discharge to surface waters.

Without proper controls, accidental releases of fuels, oils, concrete wash water, or other construction-related pollutants could infiltrate shallow soils and migrate into perched groundwater, potentially affecting groundwater quality in violation of the objectives identified in Table 3.8-2. Implementation of a project-specific SWPPP, adherence to the Construction Stormwater General Permit, and spill prevention measures would minimize pollutant discharge and protect perched groundwater quality. With compliance with existing regulations, project construction would not substantially degrade groundwater quality. Therefore, landside construction impacts related to groundwater quality would be less than significant.

WATERSIDE CONSTRUCTION SURFACE WATER QUALITY

Construction activities within surface waters have the greatest potential to affect water quality in the San Francisco Bay. Impacts to the San Francisco Bay would be primarily due to construction-related dredging, demolition of the existing pier, and construction of a new pier. In-water construction activities, such as dredging, existing pile removal and new pile installation, and pier deck demolition and construction, as well as any associated sediment disturbance, have the potential to directly affect San Francisco Bay water quality. Some of the existing pier piles, if wooden, could contain hazardous materials, such as creosote, that could be released during demolition and removal activities. Dredging of debris, removal of existing pier infrastructure, and pier installation could resuspend bottom sediments, increasing turbidity in the immediate project vicinity. Elevated turbidity can reduce light penetration, affecting photosynthetic organisms and potentially adversely affecting water quality. Sediment resuspension may also release adsorbed contaminants such as metals, hydrocarbons, or legacy pollutants into the water column, where they can be transported by currents and dispersed to adjacent areas.

[47] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

DREDGING

Dredging activities have the potential to temporarily degrade water quality by resuspending bottom sediments into the water column. As described previously, in 2025, sediment sampling and analysis was conducted within five dredge units in the project vicinity and sediment samples were found to contain metals, organochlorine pesticides, polynuclear aromatic hydrocarbons, PCBs, and dioxins/furans. Although contaminants were present, the concentrations of such contaminants indicate that sediments are not likely to pose significant hazards if managed according to reuse site requirements.

In-water sediment disturbance associated with the project would be limited in extent, localized, and temporary, and would not result in substantial or persistent degradation of water quality. Studies conducted in San Francisco Bay indicate that turbidity generated by dredging activities, typically more intensive than pile installation or removal, diminishes to background levels within a radius of approximately 600 feet within one tidal cycle for singular events.[48] Given that Bay waters are naturally highly turbid and subject to pronounced fluctuations due to tidal action, wind-driven waves, and regional sediment transport, project-related turbidity would not be expected to measurably increase local or regional turbidity beyond baseline conditions and impacts would be less than significant.

PIER AND PILE DEMOLITION AND REMOVAL AND CONSTRUCTION OF PIER AND BREAKWATER

Demolition of the closed pier is anticipated to be conducted using a crane positioned on a floating crane barge and supporting tugboats, material barges, and various smaller support vessels. Demolition of the closed pier would involve the removal of the existing concrete decking followed by the removal of existing 20-inch octagonal piles. The 20-inch piles would be removed using either a dead pull method or the use of a vibratory hammer. If full removal is not possible, the 20-inch pipe piles may be cut at the mudline.

Accidental release of construction materials/debris, concrete slurry, or equipment fluids into the San Francisco Bay could contribute to water quality degradation. Given the project site's location within tidal waters, such impacts could be rapidly conveyed beyond the immediate construction zone. These activities could result in temporary exceedances of water quality standards, which could impair beneficial uses. During construction, removed piles/deck slab and appurtenances will be loaded onto a barge and piles will be transported to a staging area. The barge will be designed to prohibit sediment or debris from falling back into the water. The work surface on the barge deck will include a containment basin for creosote, piles, concrete, and any mud or sediment removed during pulling. Upon removal from substrate, the piles will be moved expeditiously from the water into the containment basin. Any sediment accumulated from the pile removal operations will be assumed to contain creosote and will be contained and disposed offsite in an appropriate landfill.

Work surfaces on a barge deck or pier will include a containment basin for pile and any sediment removed during pulling.

- Work surfaces on a barge deck will be cleaned by disposing of sediment or other residues along with cut off piling, if so employed.
- The containment basin will be removed and disposed in accordance with applicable federal and state regulations.

[48] U.S. Army Corps of Engineers. 2015. *Dredging and Dredged Material Management. Engineer Manual.* Washington, DC.

- Upon removal from substrate, the pile will be moved expeditiously from the water into the containment basin. The pile will not be shaken, hosed-off, left hanging to drip or any other action intended to clean or remove adhering material from the pile.

In addition to compliance with the Construction Stormwater General Permit and implementation of a SWPPP, project construction would be required to comply with the requirements of the RWQCB 401 Water Quality Certification for all project-related construction activities within San Francisco Bay. The project-specific Section 401 Water Quality Certification would require conditions, which would be implemented during construction, to help protect water quality during construction activities in surface waters and reduce the potential for construction to result in water quality exceedances or impair beneficial uses. Nonetheless, due to the nature of the project requiring work within the waters for pier demolition, the potential exists for debris to enter the water, resulting in a potentially significant impact. Mitigation Measure HYD-1 would require the implementation of BMPs to address debris potentially entering the Bay, including the use of a containment boom, tarps, basins. With the implementation of this mitigation measure, along with compliance with existing regulations, impacts would be less than significant with mitigation.

WATERSIDE CONSTRUCTION GROUNDWATER QUALITY

There would be no groundwater quality impacts associated with waterside construction activities; therefore, construction would not occur over the groundwater subbasin.

Operation

LANDSIDE OPERATION SURFACE WATER QUALITY

The existing project site includes approximately 280,000 square feet of impervious surface, and the proposed project includes 248,000 square feet of impervious surface. The majority of the landside portion of the project site is already covered by impervious surfaces, such as roadways, parking lots, and paved pedestrian areas. Implementation of the proposed project would not increase the extent of impervious surfaces and would result in a net decrease of approximately 32,000 square feet of impervious area. Therefore, due to a decrease in impervious surfaces and implementation of anticipated stormwater management BMPs to be physically included on site as part of the proposed project, runoff amounts and runoff quality are anticipated to improve relative to existing conditions, and additional pollutant loading of surface water runoff is not anticipated. In addition, the Hydrologic and Hydraulic Technical Report prepared as part of the Design for this project indicates that the project would provide a water quality benefit through reduced runoff peaks and volumes. Through the construction of permeable parking, bioretention areas, and flow-through planters the required 4 percent through the C.3 program will be exceeded. In addition, this project will not result in new storm drain outfalls to the San Francisco Bay. Storm water and storm drain improvements will tie into existing outfalls.[49]

Existing uses at and adjacent to the project site, including commercial operations, marina activities, and public parking areas, generate pollutants that could impair water quality if not properly managed prior to discharge. Typical pollutants associated with such uses include suspended solids, pathogens, nutrients, pesticides, organic compounds, trash and debris, oxygen-demanding substances, and oil and grease, with heavy metals commonly associated with parking areas.

[49] COWI. 2026. Draft 60% Hydrologic and Hydraulic Technical Report. Berkeley Water Transportation Pier Ferry Project. January.

The existing Municipal Regional Stormwater Permit, which would be applicable to the project states that all new development and redevelopment projects shall include LID BMPs and source control measures to limit pollutant generation, discharge and runoff.[50] The project would include BMPs to treat and manage stormwater prior to discharge.[51] University Avenue and the Seawall Drive Parking Lot Improvement Plans would include permeable parking areas and bioretention facilities. Permeable paving consists of a High-Density Polyethylene grid (or other permeable surface) filled with gravel over a 3-foot-deep drain rock reservoir for stormwater infiltration. Subdrainage piping and connections to existing outfalls would be developed. Collectively, these features would improve water quality by filtering pollutants and reducing untreated runoff compared to existing conditions.

The project would also includes LID features — including site design measures, source control BMPs and pollutant control BMPs—to reduce the operation-related discharge of pollutants to the maximum extent practicable. LID features would also include the use of bioretention basins and media, curb cuts, permeable pavements on non-ADA lots, and stormwater plantings designed to retain and reduce from stormwater flows.[52] Implementation of these site-specific LID features and pollutant control BMPs, consistent with the requirements of the City's stormwater management program, would provide treatment and filtration of potential pollutants from runoff prior to discharge to San Francisco Bay. The primary water quality benefit of LID is reducing or eliminating direct stormwater runoff to the storm drain system or receiving waters. The initial "first flush" of stormwater during a rainfall event typically contains the highest concentration of pollutants; by routing this runoff through LID features, pollutants can be removed through retention, infiltration into engineered soil layers and/or native soils, and evapotranspiration before reaching the San Francisco Bay.

Visitors to the Berkeley Waterfront and ferry customers have the potential to generate trash, which could contribute to the existing trash impairments in the San Francisco Bay and Strawberry Creek. However, trash cans would be placed throughout the project site, including on the pier, breakwater, public plaza, and the proposed parking lot. In addition, the City would perform routine maintenance, including emptying trash receptacles. Trash management would minimize the potential for trash to be transported to surface waters.

With a decrease in net impervious area and implementation of operational BMPs, landside operation of proposed project would not violate water quality standards or waste discharge requirements. Therefore, landside operational impacts related to surface water quality would be less than significant.

LANDSIDE OPERATION GROUNDWATER QUALITY

Operation of the project would not include any excavation that could affect groundwater quality. Furthermore, as discussed above, the project would overall reduce the amount of impervious surfaces and the project would, therefore, not substantially change groundwater infiltration. Therefore, landside operational impacts related to groundwater quality would be less than significant.

[50] SFBRWQCB. 2022. Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018 (No. CAS612008). Available: https://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2022/R2-2022-0018.pdf (accessed September 2025).
[51] COWI. 2026. Draft 60% Hydrologic and Hydraulic Technical Report. Berkeley Water Transportation Pier Ferry Project. January.
[52] COWI. 2026. Draft 60% Hydrologic and Hydraulic Technical Report. Berkeley Water Transportation Pier Ferry Project. January.

WATERSIDE OPERATION SURFACE WATER QUALITY

The existing pier is an older structure, and deteriorating concrete piles or decking can leach fine particulates, lime, and elevate pH into surrounding waters. Corroding steel reinforcement may release trace metals such as iron or zinc into the Bay. Replacing the pier would reduce the existing water quality issues associated with the existing deteriorating pier. As part of the proposed project, pollutants such as primer, paint, paint chips, solvents, oils, fuels, sludges, detergents, and cleansers would be generated during operation.

Projects in Berkeley are subject to CalOSHA regulations regarding management of certain hazardous materials. Title 8 of the California Code of Regulations Section 5194, 5531-5608, and 5198 cover the control and management of chemicals, including paints, solvents, fuels, detergents and sludges, and lead. CalOSHA requires testing, monitoring, containment, and disposal of these materials, such that exposure levels do not exceed CalOSHA standards.[53]

Operation of the proposed ferry facilities, including gangways, boarding floats, guide piles, fenders, and the Universal Charging Floats, would introduce new overwater structures and associated vessel activity into San Francisco Bay that could affect water quality. Routine ferry operations would generate propeller wash and wave action, which could cause localized turbidity and resuspension of bottom sediments, particularly in the vicinity of guide piles and fenders. The project would minimize propeller-wash–induced turbidity and sediment resuspension through a combination of design, operations, and monitoring measures. The berth and maneuvering basin would be designed with adequate depth and scour protection to dissipate jet energy, and vessels would follow a low-wake approach with posted speed limits and captain training to limit throttle use.

Ferry operating procedures would require vessels to begin reducing speed approximately 0.33 nautical miles (about 2,000 feet) from the terminal to minimize wake effects and to transition to neutral propulsion approximately 0.25 nautical miles (about 1,500 feet) from the berth to allow for control transfer and docking preparations at the wing station. These operational guidelines may be adjusted as needed to account for site-specific conditions such as weather, ambient wave climate, and wake-sensitive areas. Approach distances may be further refined based on observed wake propagation toward the shoreline, marina breakwater, and adjacent uses.

The Universal Charging Floats would contain specialized electrical charging systems and Echandia LTO-chemistry lithium-ion batteries for rapid charging of electric ferry vessels. Although these systems are designed for marine applications and incorporate multiple safety features—such as battery management systems with real-time monitoring, ventilation and cooling systems, smoke-tight compartments, multiple-tiered fire suppression systems, and monitoring—malfunction or failure of components could result in the release of battery electrolytes, cooling fluids, or firefighting agents into the San Francisco Bay. While the likelihood of such events is low given the system's engineered safeguards, any accidental discharge could degrade water quality through the introduction of chemical contaminants. Standard operating procedures, such as routine inspection and maintenance of battery and cooling systems, secondary containment and spill response readiness on the charging floats, and emergency shutdown and reporting protocols in the event of leaks or malfunctions, would reduce risk of contamination associated with these materials.

Other operational activities, such as maintenance of ancillary systems, washing of vessels, and the use of hose bibs for cleaning and fire suppression, could also contribute pollutants to the surrounding waters. Pollutants potentially associated with these activities include detergents,

[53] California Code of Regulations. 2025. Title 8, Industrial relations. Office of Administrative Law. Available: https://www.dir.ca.gov/Counters/t8index.htm (accessed September 2025).

organic matter, nutrients, and trace metals from vessel surfaces and infrastructure. Overwater lighting, security systems, and electrical operations pose negligible direct water quality risks under normal conditions but may contribute to indirect impacts through increased vessel traffic and associated runoff from maintenance activities. Implementation of standard spill response protocols would reduce water quality impacts.

With compliance with existing regulations, operation of proposed project would not violate water quality standards or waste discharge requirements. Therefore, waterside operational impacts related to surface water quality would be less than significant.

WATERSIDE OPERATION GROUNDWATER QUALITY

There would be no groundwater quality impacts associated with waterside operational activities; therefore, operation would not occur over the groundwater subbasin.

Mitigation Measures

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

In compliance with the requirements of the Construction Stormwater General Permit, prior to construction the construction contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement the SWPPP during construction. The SWPPP shall be submitted to the Berkeley Public Works Department and the State Water Resources Control Board (via the Stormwater Multiple Application and Report Tracking System [SMARTS]) for review and approval at least 60 days prior to start of construction. In addition to standard Erosion Control, Sediment Control, and Good Housekeeping Best Management Practices, the following Best Management Practices shall be included in the SWPPP and implemented during pier demolition:

- Site washout areas shall be located at least 100 feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies, unless otherwise approved by the RWQCB.
- All re-fueling, cleaning, and maintenance of equipment shall occur at least 100 feet from storm drain, open ditch or surface water and/or within secondary containment, unless otherwise approved by the RWQCB.
- Particular care shall be exercised to prevent foreign materials (e.g., construction scraps, wood preservatives, other chemicals and debris, etc.) from entering the San Francisco Bay during pier demolition.
    - If wood preservatives must be applied to cut-wood surfaces, the materials, whenever feasible, shall be treated at an onshore location to preclude the possibility of spills into State waters.
    - A containment boom shall be placed around all active portions of a construction site where wood scraps or other floatable debris could enter the water.
    - The containment boom and net shall be cleared daily or as often as necessary to prevent accumulation of debris.
    - Tarps and basins shall be used above deck to contain debris and materials.
    - Dipnets shall be on-site and can be used to retrieve debris if it accidentally falls into the water.

  - A 50-foot-long spill containment boom as well as absorbent pads shall be kept on-site and shall be deployed in the event that there is a release of fluids into the water.

- Contractors shall make mandatory that work crews are carefully briefed on the importance of observing the appropriate precautions and reporting any accidental spills.

This measure may be modified or supplemented by permit conditions from applicable regulatory agencies.

Level of Significance

Less Than Significant with Mitigation

Groundwater Supply/Recharge and Groundwater Management Plan Consistency

Significance Criterion b:	Would the proposed project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Impact HYD-2 PROJECT CONSTRUCTION WOULD REQUIRE LOCALIZED DEWATERING BUT WOULD NOT SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE WITH GROUNDWATER RECHARGE. THE PROJECT WOULD DECREASE IMPERVIOUS AREA AND ENHANCE INFILTRATION AND LOCALIZED RECHARGE BUT WOULD NOT CONFLICT WITH THE SUSTAINABLE MANAGEMENT OF THE GROUNDWATER BASIN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Because perched and tidally influenced groundwater is present at shallow depths, localized dewatering may alter shallow subsurface conditions during construction. Groundwater dewatering of the deeper regional aquifer would not be required. However, localized trench pumping has the potential to lower perched groundwater levels in the immediate work area. These effects would be temporary and localized and would not conflict with the sustainable management of the groundwater basin or groundwater subbasin. Therefore, construction impacts related to groundwater supply/recharge and groundwater management plan consistency would be less than significant.

Operation

The project site is located within the northwestern portion of the East Bay Plain Subbasin, where groundwater is not a primary source of municipal supply and the depth to groundwater is approximately 5 to 13.4 feet below the surface.[54] The landside portion of the site is already predominantly covered by impervious surfaces, and the proposed project would result in a net decrease of approximately 32,000 square feet of impervious area through the inclusion of permeable paving, bioretention facilities, and other LID features. These measures would enhance localized infiltration opportunities compared to existing conditions and would not reduce the capacity for groundwater recharge. The project does not include groundwater extraction for operational water supply, and no dewatering or pumping activities are proposed during operation that would lower groundwater levels. For these reasons, operation of the proposed project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that sustainable groundwater management of the East Bay Plain Subbasin or Santa Clara Valley

[54] ENGEO. 2025. Berkeley Water Transportation Pier Ferry Geotechnical Report. Revised December 12.

Groundwater Basin would be impeded. Accordingly, the project would not adversely impact groundwater supply, aquifer storage, or recharge capacity and would not conflict with the sustainable management of the groundwater basin or groundwater subbasin. Therefore, operational impacts related to groundwater supply/recharge and groundwater management plan consistency would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Drainage Pattern Alteration

Significance Criterion c:	Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. result in substantial erosion or siltation on- or off-site; ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. impede or redirect flood flows?

Impact HYD-3 **PROJECT CONSTRUCTION WOULD TEMPORARILY DISTURB SOILS AND INCREASE THE POTENTIAL FOR EROSION, SILTATION, AND CONTAMINANT RELEASE, AND SUSPEND SEDIMENTS IN SAN FRANCISCO BAY. THE PROJECT WOULD PLACE A NEW PIER AND BREAKWATER WITHIN A FLOOD HAZARD AREA. HOWEVER, WITH COMPLIANCE WITH EXISTING REGULATIONS AND IMPLEMENTATION OF REQUIRED BMPS, IMPACTS RELATED TO EROSION, SILTATION, RUNOFF, AND FLOODING WOULD BE LESS THAN SIGNIFICANT.**

Construction

EROSION AND SILTATION

Construction of the proposed project would involve pavement removal, grading, excavation, filling, parking areas, utilities, and pedestrian pathways. These activities would temporarily disturb soils and alter drainage patterns and, during periods of heavy rainfall or high winds, could increase the potential for erosion and transport of sediment from upland portions of the site into the storm drain system or directly into San Francisco Bay. However, the project is required to comply with regulatory requirements designed to minimize erosion and siltation, including preparation of a SWPPP and implementation of BMPs in compliance with the Construction Stormwater General Permit. As part of the implementation of the SWPPP, these BMPs could include erosion control measures, sediment containment devices, stabilization of disturbed soils, and spill prevention protocols. Therefore, construction impacts related to drainage pattern alteration specific to erosion and siltation would be temporary, localized, and less than significant.

RUNOFF AND FLOODING

Construction could alter drainage patterns and change runoff patterns. Temporary construction staging areas could generate localized runoff, but SWPPP BMPs for stormwater control and site stabilization would ensure that construction activities would not substantially increase runoff in a manner that causes flooding on- or off-site. Development and implementation of a SWPPP would be required under the State Water Resources Control Board's Construction General Permit and is independent of the Water Quality Certification process. Compliance with these existing regulatory requirements will address concerns related to water quality. Therefore, construction impacts related to drainage pattern alteration specific to runoff and flooding would be less than significant.

DRAINAGE SYSTEM CAPACITY AND POLLUTED RUNOFF

Construction activities could produce pollutant-laden runoff (sediment, hydrocarbons, trash, debris, or concrete wash water). Compliance with the Construction Stormwater General Permit requires implementation of a SWPPP and stormwater BMPs, such as proper material storage, spill containment, and waste management, to reduce discharges of polluted runoff. In addition, runoff from the site would continue to be directed into existing storm drain infrastructure, which are adequately sized to handle flows with BMP implementation. Construction would not generate flows exceeding system capacity or provide substantial additional sources of polluted runoff. Therefore, construction impacts related to drainage pattern alteration specific to drainage system capacity and polluted runoff would be less than significant.

FLOOD FLOW IMPEDANCE

The proposed project does not involve modifications to any natural stream channel, river, or designated floodway, nor does it alter the Strawberry Creek culvert or outfall, which would be avoided to the extent feasible during construction. Construction staging and in-water work would be managed to avoid creating barriers to overland flow. The Hydrologic and Hydraulic Technical Report prepared as part of the Design for the project indicates that the project would provide reduced runoff peaks and volumes, compared to existing conditions.[55]The project would not impede or redirect flood flows in a manner that increases flood risk. Therefore, construction impacts related to drainage pattern alteration specific to flood flow impedance would be less than significant.

Operation

EROSION AND SILTATION

During operation, the project would not result in substantial erosion or siltation because the site would be stabilized with new pavement, permeable paving, landscaped areas, and bioretention facilities. Compared to existing conditions, the project would reduce the overall impervious areas and increase vegetated and pervious areas, thereby reducing runoff velocity and promoting infiltration. These features are designed to slow and detain stormwater prior to discharge, which minimizes the potential for erosion and sediment transport both onsite and in downstream conveyance systems. Operation of the project would also be subject to ongoing compliance with applicable Municipal Regional Stormwater NPDES Permit requirements, which mandate routine maintenance of drainage facilities, permeable surfaces, and LID features to preserve stormwater function and reduce erosion. With implementation of these design elements and compliance with

[55] COWI. 2026. Draft 60% Hydrologic and Hydraulic Technical Report. Berkeley Water Transportation Pier Ferry Project. January.

regulatory requirements, operational impacts related to drainage pattern alteration specific to erosion and siltation would be less than significant.

RUNOFF AND FLOODING

Under existing conditions, the landside portion of the project site consists of approximately 280,000 square feet of impervious surface area, including roadways, parking lots, and paved pedestrian areas. The proposed project would reduce total impervious surface area by approximately 32,000 square feet, primarily through the use of permeable paving and landscaped bioretention facilities in the renovated Seawall Drive parking lot and along University Avenue. The net reduction in impervious surfaces, combined with the infiltration capacity of permeable paving would reduce runoff volumes and peak flows relative to existing conditions. Peak flows would also be managed by bioretention basins to capture and control stormwater flows. These LID features are designed to promote infiltration, slow runoff, and detain stormwater prior to discharge, thereby reducing both runoff volumes and peak flow rates relative to existing conditions. As a result, the project would improve stormwater retention and infiltration capacity compared to existing conditions and would not contribute to increased flooding potential from site-generated runoff. Accordingly, the proposed project would not substantially increase runoff in a manner that results in flooding on- or off-site during operations. Therefore, operational impacts related to drainage pattern alteration specific to runoff and flooding would be less than significant.

DRAINAGE SYSTEM CAPACITY AND POLLUTED RUNOFF

The proposed drainage improvements, including new subdrainage piping and outfalls would be designed to convey stormwater to onsite treatment and detention areas prior to discharge to San Francisco Bay. Permeable pavement systems would incorporate a High-Density Polyethylene grid (or other permeable surface) filled with gravel over a 3-foot-deep drain rock reservoir to temporarily store stormwater and promote infiltration. Bioretention facilities would capture and treat the “first flush” of runoff, which typically contains the highest pollutant concentrations, before discharging at controlled rates. These measures would lower pollutant loads in stormwater and maintain or reduce peak discharge rates to the municipal storm drain system compared to existing conditions, ensuring that the project would not generate flows that exceed the system’s capacity. Accordingly, the proposed project would not create or contribute runoff that exceeds the capacity of the storm drain system or provide substantial additional sources of polluted runoff. Therefore, operational impacts related to drainage pattern alteration specific to drainage system capacity and polluted runoff would be less than significant.

FLOOD FLOW IMPEDANCE

The proposed project does not involve modifications to any natural stream channel, river, or designated floodway, nor does it alter the Strawberry Creek culvert or outfall, which would be avoided to the extent feasible during construction. Grading and drainage improvements would maintain existing surface flow directions and preserve existing conveyance pathways to San Francisco Bay. Permeable pavement, bioretention, and subdrainage systems would improve onsite infiltration and stormwater management without creating barriers to overland flow. In addition, larger above-ground structures for the landside improvements, such as the restroom, would be located outside of the 500-year floodplains. While the proposed breakwater and piles will be located within Zone VE of the 100-year floodplain, the project is unlikely to change the water elevation or exacerbate flooding due to the size and capacity of San Francisco Bay and relatively small volume of the new in-water structures. In addition, because portions of the project area are

located within a 100-year floodplain, design would be subject to review by the City of Berkeley to ensure the project does not adversely affect water surface elevation of the floodplains. Accordingly, the project would not impede or redirect flood flows in a manner that would increase flood risk to onsite or adjacent properties. Therefore, operational impacts related to drainage pattern alteration specific to flood flow impedance would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Risk of Pollutant Release Due to Inundation

Significance Criterion d:	In flood hazard, tsunami, or seiche zones, would the proposed project risk release of pollutants due to inundation?

Impact HYD-4 **PROJECT CONSTRUCTION IN TIDAL AND COASTAL FLOOD AREAS COULD TEMPORARILY INCREASE THE RISK OF INUNDATION AND POLLUTANT RELEASE. OPERATION WOULD ALSO OCCUR WITHIN THE 100-YEAR FLOODPLAIN AND TSUNAMI INUNDATION ZONE. HOWEVER, WITH CLIMATE-ADAPTIVE DESIGN ELEVATIONS, WATERTIGHT STORAGE, BATTERY SAFETY SYSTEMS, AND IMPLEMENTATION OF REQUIRED BMPS, IMPACTS RELATED TO POLLUTANT RELEASE OR WATER QUALITY DEGRADATION DUE TO FLOODING, TSUNAMI, OR SEICHE WOULD BE LESS THAN SIGNIFICANT.**

Construction

Construction of the new pier would occur within San Francisco Bay and along the Berkeley Waterfront, where the work area is subject to tidal flooding, storm surge, and wind-driven wave action. Portions of the in-water work zone are located within FEMA Zone VE, which is susceptible to coastal flooding and wave run-up. Elevated water levels during construction, whether from extreme tides, storm surge, or short-duration flood events could inundate active work areas, material staging zones, or equipment platforms. Such inundation could mobilize construction-related pollutants, including suspended sediments from pile installation or removal, dredging, and pier demolition; concrete slurry; uncured grout; treated wood fragments; paints and coatings; petroleum-based products such as hydraulic fluids, oils, and fuels; and debris generated during demolition.

Construction equipment operating in flooded or wave-affected zones may be at greater risk for leaks or spills of fuel and lubricants, which could disperse rapidly in tidal waters. Pollutants discharged to surface waters can temporarily degrade water quality and impair beneficial uses.

The Construction Stormwater General Permit requires that all qualifying construction projects prepare and implement a SWPPP that identifies potential pollutant sources and prescribes BMPs to minimize discharges of pollutants to receiving waters. As part of the SWPPP, contractors must implement Good Housekeeping BMPs, which include proper storage, handling, and disposal of construction materials, chemicals, and hazardous substances. On waterfront sites subject to tidal action or potential seawater inundation, these measures include storing materials in designated upland or covered areas, using secondary containment for fuels, oils, and solvents, and securing containers to prevent displacement during high water or wave action. Collectively, these practices help ensure that construction and hazardous materials are managed to minimize the risk of

accidental release or mobilization, thereby protecting water quality and complying with permit requirements. With compliance with permit conditions and implementation of BMPs, construction would not release pollutants due to inundation Therefore, construction impacts related to risk of pollutant release due to inundation would be less than significant.

Operation

Portions of the project site are located within Zone VE of the 100-year coastal floodplain, which is subject to tidal flooding and storm-induced wave action, and within the mapped tsunami inundation zone for the San Francisco Bay shoreline. Due to its location on the Berkeley Waterfront, the site could also be affected by seiche events generated within the San Francisco Bay during seismic activity. In the event of inundation from coastal flooding, tsunami, or seiche, potential pollutant sources at the site would primarily be associated with overwater ferry infrastructure and small quantities of maintenance materials stored landside. However, the project is designed to withstand long-term sea level rise impacts and minimize pollutant release risks through incorporation of multiple protective features, including enclosed and covered outdoor materials and waste storage areas, storm drain inlet protection, spill prevention and response protocols. The Universal Charging Float battery systems would be housed in smoke-tight, watertight compartments with real-time monitoring, automated shutoff systems, and multiple redundant fire suppression systems, substantially reducing the potential for pollutant release in the event of inundation.

The proposed project is designed to address projected sea level rise, consistent with the 2024 California Sea Level Rise Guidance. The project has been designed to last through 2075 and also considers possible conditions through the year 2100. Based on sea level rise projections, the design allows for about 1.6 feet of higher water levels by 2075. To address this, the breakwater, pier deck, and plaza are all set at or above recommended heights to ensure they remain safe and functional even with future higher tides and waves. These elevations also account for extreme wave conditions and are intended to maintain operational functionality and public safety under projected mid-century sea level rise. By integrating these climate-adaptive design features with operational BMPs, the project would not present a substantial risk of pollutant release due to inundation from flooding, tsunami, seiche, or sea level rise within its design life. Given these design features and operational controls, the project would not present ongoing substantial risk of pollutant release due to flooding, tsunami, or seiche events. Therefore, operational impacts related to risk of pollutant release due to inundation would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Water Quality and Sustainable Groundwater Management Plans Consistency

Significance Criterion e:	Would the proposed project conflict with or obstruct implementation of a water quality control plan or a sustainable groundwater management plan?

Impact HYD-5 **PROJECT CONSTRUCTION COULD RESULT IN TEMPORARY, LOCALIZED RESUSPENSION OF SEDIMENTS AND SHORT-TERM INCREASES IN TURBIDITY. THESE EFFECTS WOULD BE LIMITED IN DURATION AND EXTENT AND WOULD NOT RESULT IN LONG-TERM DEGRADATION OF WATER QUALITY. THE PROJECT WOULD REMAIN CONSISTENT WITH SFBRWQCB BASIN PLAN OBJECTIVES AND BENEFICIAL USES, AS WELL AS THE GOALS OF THE EAST BAY SUBBASIN GROUNDWATER SUSTAINABILITY PLAN. THEREFORE, IMPACTS RELATED TO SEDIMENT RESUSPENSION AND TURBIDITY WOULD BE LESS THAN SIGNIFICANT.**

Construction

SFBRWQCB BASIN PLAN

The Basin Plan establishes water quality objectives and beneficial uses for San Francisco Bay, and emphasizes control of pollutant discharges, protection of aquatic life, and maintenance of water quality standards. See Table 3.8-1 and Table 3.8-2 for an overview of water quality objectives and beneficial uses in the Basin Plan. While in-water construction activities such as pile driving, dredging, and demolition could temporarily increase turbidity or resuspend sediments containing legacy pollutants, the project would comply with the conditions specified in the Section 401 Water Quality Certification and requirements of the Construction Stormwater General Permit, and would implement a SWPPP and BMPs. Development and implementation of a SWPPP would be required under the State Water Resources Control Board's Construction General Permit and is independent of the Water Quality Certification process. Compliance with these existing regulatory requirements would address concerns related to protection of water quality. Compliance with these regulatory requirements would also help achieve compliance with Basin Plan numeric objectives for turbidity, pH, dissolved oxygen, and toxic pollutants, and reduce risk of impairment of beneficial uses. Therefore, construction impacts related to SFBRWQCB Basin Plan consistency would be less than significant.

EAST BAY SUBBASIN GSP

The GSP emphasizes sustainable groundwater management through monitoring, protection of recharge areas, and avoidance of overdraft or water quality degradation. The project site is located on the Berkeley Waterfront, where groundwater is tidally influenced and not used as a primary municipal supply. Construction activities may require temporary dewatering to facilitate excavation or foundation work, which can generate discharges with elevated turbidity, altered pH, or mobilized sediments if not properly managed. Such discharges have the potential to affect nearby surface waters if released without treatment or controls. However, compliance with the Construction Stormwater General Permit, including monitoring and treatment of dewatering discharge would minimize these risks. Potential dewatering-related impacts to water quality would be controlled. Therefore, construction impacts related to East Bay Subbasin Plan consistency would be less than significant.

Operation

SFBRWQCB BASIN PLAN

By reducing impervious surfaces by approximately 32,000 square feet, and incorporating LID features (e.g., bioretention basins, vegetated swales, permeable pavement) and reducing square footage of impervious surfaces, the project minimizes stormwater runoff and associated pollutant loads—directly supporting Basin Plan goals for nonpoint source pollution control and associated beneficial uses. Overall, the proposed project supports Basin Plan implementation by reducing pollutant loads and runoff, enhancing stormwater treatment, reducing impacts to sensitive outfalls like Strawberry Creek, and by designing for sea level rise and flood resilience. Project operation would not conflict with the SFBRWQCB Basin Plan. Therefore, operational impacts related to SFBRWQCB Basin Plan consistency would be less than significant.

EAST BAY SUBBASIN GSP

Operation of the proposed project would not conflict with or obstruct implementation of the East Bay Plain Subbasin GSP. The project site lies within a tidally influenced portion of the subbasin where groundwater is not relied upon as a primary municipal supply. The project's operation does not include groundwater extraction, long-term dewatering, or other activities that would reduce basin storage or impair sustainable management criteria. Instead, operation would reduce impervious surface area by approximately 32,000 square feet and incorporate LID features such as permeable paving, bioretention, and vegetated areas that improve localized infiltration and stormwater management.

These measures are consistent with GSP objectives to protect recharge opportunities and water quality. Accordingly, the project would be consistent with, and supportive of, the East Bay Subbasin GSP. Therefore, operation of the proposed project would not conflict with or obstruct implementation of the RWQCB Basin Plan or East Bay Subbasin Groundwater Sustainability Plan, Therefore, operational impacts related to East Bay Subbasin Plan consistency would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

3.8.5 Cumulative Impacts

The geographic scope of the cumulative hydrology and water quality analysis is the surface area of the San Francisco Bay shoreline within the Berkeley Waterfront drainage catchment and the northwestern portion of the East Bay Plain Groundwater Subbasin. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (see Chapter 3*, Environmental Impact Analysis*) located in Berkeley in addition to the proposed project.

Surface Water Quality

Cumulative projects at the Berkeley Waterfront—including marina dredging, dock repairs, new restrooms, and shoreline resiliency improvements—have the potential to generate short-term construction discharges (e.g., turbidity, sediment, accidental spills) and long-term operational sources (e.g., stormwater runoff from repaved parking lots and trails). When considered together with the proposed project, these activities could result in incremental pollutant loading to Central San Francisco Bay. However, each project would be required to comply with Construction Stormwater General Permit requirements, project-specific Section 401 Water Quality Certification conditions, and San Francisco Bay Region Municipal Stormwater NPDES Permit requirements. Compliance with these standards would require that water quality thresholds (e.g., turbidity, pH, dissolved oxygen, bacteria, chemical constituents) are not exceeded. CEQA Guidelines 15130(c), which states that "with some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis." The existing regulations that protect water quality throughout the state address potential cumulative impacts related to water quality. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to surface water quality.

Groundwater Supplies and Recharge and Groundwater Quality

Cumulative development in the project vicinity—including the maximum development potential in the Draft Waterfront Specific Plan and residential infill—would add impervious surfaces that could incrementally reduce localized infiltration. However, none of the cumulative projects are groundwater-dependent, and the project site and marina area are tidally influenced and not located over an actively managed groundwater basin. The proposed project itself would reduce impervious surface area and include LID features, which would enhance infiltration relative to baseline conditions. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to groundwater supply and recharge, as well as groundwater quality.

Drainage Pattern Alteration

Erosion and *Siltation*

Cumulative construction projects around the Berkeley Marina (e.g., dredging, dock replacement, park pathway reconstruction) could expose soils to erosion. However, cumulative projects would be required to comply with site-specific SWPPPs, BMPs, and RWQCB requirements to minimize erosion. The proposed project would similarly implement erosion-control BMPs. Cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to erosion and siltation impacts.

Runoff and Flooding

Cumulative projects, including parking lot and roadway improvements, would add impervious surfaces that incrementally increase stormwater runoff. However, modern stormwater treatment requirements (C.3 compliance) mandate on-site detention, infiltration, and/or treatment to reduce increases in peak runoff. The proposed project would reduce impervious area and incorporate bioretention basins and vegetated swales. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to runoff and flooding impacts.

Drainage System Capacity and Polluted Runoff

Cumulative waterfront improvements could increase impervious surfaces and increase stormwater discharges. However, modern stormwater treatment requirements (C.3 compliance) mandate on-site detention, infiltration, and/or treatment to reduce increases in peak runoff and would be required to size on-site drainage systems adequately. The proposed project would reduce impervious area and incorporate bioretention basins and vegetated swales. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to storm drain capacity and polluted runoff.

Flood Flow Impedance

Cumulative shoreline resiliency projects (e.g., seawall studies, shoreline reinforcement, parking lot upgrades) could influence localized flood pathways. However, these cumulative projects are designed to reduce flooding related to sea level rise and storm surge resilience and are subject to regulatory review from BCDC, FEMA, and SFRWQCB. The proposed project would not obstruct or redirect flood flows and would instead be designed for sea level rise and storm surge adaptation. Thus, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to flood flow impedance impacts.

Risk of Pollutant Release Due to Inundation

Several cumulative projects are located within the Bay shoreline hazard zone and could be subject to future flooding, tsunami, or seiche conditions. Inundation of cumulative construction staging areas, parking lots, or wastewater facilities could lead to pollutant mobilization. However, compliance with shoreline resiliency standards, BCDC regulations, and local floodplain ordinances would require design features to reduce these risks. In addition, the proposed project would elevate infrastructure and incorporate adaptive flood design (per 2024 California Sea-Level Rise Guidance). Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to pollutant-release risks from inundation.

Water Quality and Management Plans Consistency

Cumulative projects at the Berkeley Waterfront would be required to comply with the SFBRWQCB Basin Plan, which establishes numeric and narrative water quality objectives, along with applicable MS4 permit conditions.

None of the cumulative projects or the proposed project would interfere with implementation of the groundwater subbasin managed under the East Bay Plain Subbasin GSP. Rather, the cumulative projects collectively support Basin Plan and GSP objectives by reducing pollutant loads through modern stormwater controls and infiltration BMPs. Therefore, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to consistency with a water quality control plan or groundwater management plan.

Overall Level of Cumulative Significance

Less Than Significant

3.9 Land Use Planning

3.9.1 Introduction

This section summarizes land use characteristics of the project site and adjacent areas and analyzes existing plans in order to determine the potential environmental effects of the proposed project related to land use planning. Information included in this section is based on information obtained from the Berkeley General Plan, Municipal Code, and Marina Master Plan, as well as the San Francisco Bay Development and Conservation Commission (BCDC) San Francisco Bay Plan and Association of Bay Area Governments/Metropolitan Transportation Commission (ABAG/MTC) Plan Bay Area 2050.

3.9.2 Environmental Setting

Current Physical Land Use

Project Site

Existing land uses within the project site include recreation, restaurant, marina, and transportation land uses (roadways and surface parking). The waterside portions of the project site currently include the closed Berkeley Pier and the San Francisco Bay waters surrounding a portion of the closed Berkeley Pier. The landside portions of the project site currently include the entry area for the Berkeley Pier; the existing parking lot off Seawall Drive; the Skates on the Bay parking lot and parking lot M (for construction staging); roadways with landscaping (University Avenue and Seawall Drive); University Avenue and Seawall Drive; a small portion of Shorebird Park; and various internal pathways and sidewalks.

Areas Surrounding Project Site

TO THE NORTH

Existing land uses to the north of the project site include recreational, commercial, marina, transportation, and hotel uses, including Horseshoe Park; the DoubleTree Hotel; the Berkeley Marina and docks A through O; Berkeley Marina Boat Launch Ramps; Berkeley Marine Center Boat Yard; César E. Chávez Park; and the McLaughlin Eastshore State Park State Seashore.

TO THE EAST

Existing land uses to the east of the project site include transportation uses, including Interstate 80, as well as a number of office, retail, and commercial uses further east of these transportation uses.

TO THE SOUTH

The existing use to the south of the project site is open San Francisco Bay water, including the South Sailing Basin as well as Shorebird Park, surface parking at Seawall Drive Lot, and a restaurant building.

TO THE WEST

The existing use to the west of the project site is open San Francisco Bay water.

Current Land Use Designations and Zoning

Project Site

The project site has a Berkeley General Plan land use designation of Waterfront/Marina.[1] The General Plan describes the Waterfront/Marina as areas intended to maintain and preserve areas of Berkeley adjacent to the Bay for open space, recreational uses, waterfront-related commercial and visitor services, boating, and water transit facilities. The project site has a zoning designation of Unclassified (U). Development within Unclassified areas requires a Use Permit in compliance with Berkeley Municipal Code Section 23.208.020, which governs Use Permits in Unclassified zones. The project site is subject to the Berkeley Marina Use Permit (Permit No. 5567), issued in 1965, which authorizes existing uses and permits implementation of the Marina Master Plan. This permit governs current uses at the Berkeley Waterfront and establishes a framework for future improvements. The project will be required to obtain a new Use Permit for any new use proposed, which includes the use of the pier for the operation of a public ferry. A summary of the permitting process pursuant to Berkeley Municipal Code Section 23.208.020 is provided in Section 3.9.3, *Regulatory Framework*, below.

Areas Surrounding Project Site

TO THE NORTH

Land use designations to the north of the project site include Open Space, and Waterfront/Marina. Zoning in this area is Unclassified (U) District.

TO THE EAST

Land use designations to the east of the project site include Commercial, Mixed Use, and Transportation Corridor. Zoning in this area includes Mixed Use-Light Industrial (MU-LI), West Berkeley Commercial (CU-W), and Mixed Use Residential (MU-R) districts.

TO THE SOUTH

Land use designations to the south of the project site are classified as Open Water. This area is not zoned for development and is governed by State, regional, and local shoreline management policies.

TO THE WEST

Land use designations to the west of the project site are also Open Water. This area is not zoned for development and is governed by State, regional, and local shoreline management policies.

3.9.3 Regulatory Framework

Federal Regulations

Coastal Zone Management Act Section 307

Section 307 of the Coastal Zone Management Act (CZMA) empowers states to influence federal agency decisions that impact coastal uses or resources. This section mandates federal consistency, requiring that federal actions, both within and outside the coastal zone, which have reasonably

[1] Berkeley, City of. 2001. Berkeley General Plan Land Use Element (Page LU-11). Available: https://berkeleyca.gov/sites/default/files/documents/02_Land%20Use%20Element-FINAL.pdf (accessed July 2025).

foreseeable effects on any coastal use or natural resource, adhere to the enforceable policies of a state's coastal management program. This ensures that federal activities, including development projects, are conducted in a manner consistent with state-approved coastal management plans (i.e., BCDC Bay Plan), thereby protecting coastal ecosystems and promoting sustainable land use and planning.

State Regulations

Public Trust Doctrine

The Public Trust Doctrine requires the State of California to hold certain lands in trust for the benefit of the public. Historically, the doctrine protected public rights for navigation, commerce, and fisheries, but landmark court decisions have expanded its scope to include recreation, ecological preservation, and scenic and wildlife habitat protection. Under this doctrine, sovereign lands became state property upon California's admission to the Union in 1850 and are managed by the California State Lands Commission or by local jurisdictions under legislative trust grants. Public Trust lands cannot be sold and must be used for purposes that promote or protect trust values.[2]

In Berkeley, portions of the shoreline and adjacent open water are sovereign marsh, tide, and submerged lands granted to the City of Berkeley by the Legislature. The initial grant was enacted in 1913 and subsequently amended in 1961 to confirm and broaden allowable public-interest uses with trust obligations. The City, as trustee, is responsible for managing these lands in accordance with its granting statutes and the Public Trust Doctrine. Within the granted trust lands, allowable uses are those that accommodate or improve navigation, water-dependent transportation, public access, recreation, and environmental protection, and may include visitor-serving facilities when they further statewide public trust purposes. Uses that inhibit public access, are not water-dependent, or could be sited elsewhere are generally inconsistent with trust obligations.[3]

Consistency with the Public Trust Doctrine is not required by CEQA because CEQA Guidelines Section 15125(d) only requires evaluation of adopted plans and policies that were established for the purpose of avoiding or mitigating an environmental effect. The Public Trust Doctrine is a common law principle, not an adopted land use or policy under CEQA. Therefore, it is provided here for context but is not analyzed further in this EIR.

McAteer-Petris Act

The McAteer-Petris Act establishes BCDC with the authority to regulate land use and development in the coastal areas of the San Francisco Bay area, including the Berkeley Waterfront area. The Act aims to limit the unnecessary filling of the Bay, promote public access, and provide comprehensive planning through the San Francisco Bay Plan. The Act also grants BCDC the power to issue permits for projects within its jurisdiction, which includes the Bay open waters, marshes, mudflats, and a 100-foot shoreline band.

California Government Code Section 66605

California Government Code Section 66605 establishes the conditions under which filling of the San Francisco Bay and certain waterways is permitted. It states that such filling should only be

[2] California State Lands Commission. 2026. Public Engagement: Public Trust Doctrine. Available: https://www.slc.ca.gov/public-engagement/#ptdoctrine (accessed January 2026).
[3] California State Lands Commission. 2026. City of Berkeley. Available: https://www.slc.ca.gov/granted-public-trust-lands/grantees/berkeley/ (accessed January 2026).

authorized when the public benefits clearly exceed the public detriment and should be limited to water-oriented uses, such as ports, airports, and wildlife refuges. Additionally, it requires that no alternative upland location is available, the fill area is minimized, and harmful effects on the Bay's environment are minimized. The fill must adhere to sound safety standards to protect public health and welfare, and establish a permanent shoreline where feasible. The applicant must also have valid title to the property.

Regional and Local Regulations

BCDC San Francisco Bay Plan

In compliance with the McAteer-Petris Act, BCDC prepared the first San Francisco Bay Plan in 1968 which was transmitted to the California Legislature and the Governor in 1969. BCDC amends the Bay Plan over time to address regional needs. The San Francisco Bay Plan includes policies to guide future uses of the Bay and the shoreline. The Plan aims to protect the Bay from unnecessary filling, promote public access, and ensure sustainable development. It designates priority use areas for water-oriented activities, such as ports and recreational facilities, and establishes environmental safeguards to preserve the Bay's natural resources. The Plan also includes specific policies for shoreline protection, habitat restoration, and climate resilience, ensuring that land use and planning decisions support ecological health and community needs. Pertinent policies are identified and addressed in detail under Impact LU-2 within this EIR section.

ABAG/MTC Plan Bay Area 2050

The ABAG/MTC Plan Bay Area 2050, adopted in October 2021 and last updated in November 2024, integrated transportation and land-use plan for the nine-county San Francisco Bay Area, including Alameda County. Plan Bay Area 2050 meets all state and federal requirements for a Regional Transportation Plan and Sustainable Communities Strategy, also referred to as the RTP/SCS. The Plan describes where and how the region can accommodate the slightly fewer than 1.4 million new households and 1.4 million new jobs projected in the Bay Area by 2050 and details the regional transportation investment strategy over this period. The Plan identifies 35 strategies that focus on improving housing, the economy, transportation, and the environment across the Bay Area over a 30-year period. The plan has identified four geographic areas to guide where future growth in housing and jobs would be focused over the next 30 years: Priority Development Areas (PDA), Priority Production Areas (PPA), Transit Rich Areas (TRA), and High-Resource Areas (HRA). ABAG and MTC developed land use and transportation scenarios in Plan Bay Area 2050 that distribute the total amount of anticipated growth across the region and measure how well each scenario measures against the Plan goals. Based upon performance, the preferred scenario provides a regional pattern of household and employment growth and a corresponding transportation investment strategy. The following strategies are applicable to the Waterfront area, and are therefore applicable to the proposed project:

- **Strategy T3**. Enable a Seamless Mobility Experience.
- **Strategy T5**. Implement a Per-Mile Tolling on Congested Freeways with Transit Alternatives.
- **Strategy T8.** Build a complete streets network.
- **Strategy EN1**. Adapt to Sea-Level Rise.
- **Strategy EN8.** Expand clean vehicle initiatives.

Pertinent policies are identified and addressed in detail under Impact LU-2 within this EIR section.

Bay Area Clean Air Plan

The Bay Area Air District *Bay Area Clean Air Plan* is a comprehensive regional strategy adopted in 2017 to address climate change and improve air quality across the nine counties under its jurisdiction. This plan is discussed further in Section 3.2, *Air Quality,* of this EIR.

Berkeley Climate Action Plan

The City of Berkeley adopted a Climate Action Plan (CAP) in 2009 with the goal of reducing communitywide GHG emissions by 80 percent below 2000 levels by 2050. The core recommendation strategies and actions of the CAP cover the following topics:[4]

- Sustainable Transportation and Land Use
- Building Energy Use
- Waste Reduction and Recycling
- Community Outreach and Empowerment
- Preparing for Climate Change Impacts

Berkeley General Plan

Adopted in 2002 and amended in 2023, the Berkeley General Plan is a long-range plan of policies for the development and preservation of Berkeley. The General Plan identifies the following seven major goals:

1. Preserve Berkeley's unique character and quality of life;
2. Ensure that Berkeley has an adequate supply of decent housing, living wage jobs, and businesses providing basic goods and services;
3. Protect local and regional environmental quality;
4. Maximize and improve citizen participation in municipal decision-making;
5. Create a sustainable Berkeley;
6. Make Berkeley a disaster-resistant community, that can survive, recover from, and thrive after a disaster; and
7. Maintain Berkeley's infrastructure, including streets, sidewalks, buildings, and facilities; storm drains and sanitary sewers; and open space, parks, pathways, and recreation facilities.

The General Plan's goals are implemented through decisions and actions consistent with the objectives policies and actions of each of the nine Elements: Land Use, Transportation, Housing, Disaster Preparedness & Safety, Open Space & Recreation, Environmental Management, Economic Development and Employment, Urban Design & Preservation and Citizen Participation. The General Plan explicitly recognizes that given its broad scope, "inherent tensions exist between Plan objectives and policies that must be balanced against one another through the decision-making process on particular development and land use decisions."

LAND USE ELEMENT

The Land Use Element of the Berkeley General Plan includes goals, policies and actions that support context-sensitive infill development, historic preservation, transit-oriented development, mobility

[4] Berkeley, City of. 2009. Berkeley Climate Action Plan. Available: https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Climate-Action-Plan.pdf. (accessed August 2025).

and access that prioritizes alternative modes of transportation, "complete neighborhoods" that are well-served by a balance of commercial, community-serving/institutional and residential uses, and zoning changes to incentivize affordable housing.

OPEN SPACE AND RECREATION ELEMENT

The Open Space and Recreation Element of the Berkeley General Plan provides a regulated framework for the maintenance and continuous improvement of the City's open space and recreational facilities, including open spaces, parks, playgrounds, recreation centers, swim centers, public gardens, the Marina, public paths, landscaped medians, and sidewalks.

TRANSPORTATION ELEMENT

The Transportation Element of the Berkeley General Plan is closely related to the Land Use Element. The Transportation Element contains policies that regulate the movement of vehicles, people, and goods throughout Berkeley. It prioritizes maximizing the efficiency of existing systems serving the area and includes several plans and studies of neighborhoods throughout Berkeley.

DISASTER PREPAREDNESS & SAFETY ELEMENT

The Disaster Preparedness and Safety Element of the Berkeley General Plan establishes and maintains an effective emergency response program that anticipates the potential for disasters; maintains continuity of life-support functions during an emergency; and institutes community-based disaster response planning, including businesses, non-governmental organizations, and neighborhoods. It is discussed in more detail in Chapter 3.7, *Hazards and Hazardous Materials*, of this EIR.

URBAN DESIGN & PRESERVATION ELEMENT

The Urban Design & Preservation Element of the Berkeley General Plan discusses the regulation of historic preservation, urban design, visual character, and Berkeley's built environment as a whole.

Pertinent policies are identified and addressed in detail under Impact LU-2 within this EIR section.

Berkeley Municipal Code

The Berkeley Municipal Code (BMC) is a collection of the City of Berkeley local laws and policies, including general provisions, building and construction, public health and safety, environmental protection, and public services. Relevant BMC policies include:

- **BMC Chapter 6.20.** Regulations for the Berkeley Marina, including recreation activities, berth applications, rates, service charges, and grants authority to the Harbormaster for managing marina operations to ensure safe and efficient use of marina facilities.
- **BMC Chapter 6.52**. Regulations governing the removal, pruning, and planting of trees on public property. This regulation is discussed further in Section 3.3, *Biological Resources*, of this EIR.
- **BMC Chapter 12.20.** Includes requirements for mitigation and replacement of trees removed during construction. This ordinance is discussed further in Section 3.3, *Biological Resources*, of this EIR.
- **BMC Chapter 13.40**. Establishes noise thresholds and enforcement procedures relevant for evaluating land use compatibility with transportation-related noise. BMC Chapter 13.40 is discussed further in Section 3.10, *Noise*, of this EIR.

- **BMC Chapter 23.** Chapter 23 includes the City's Zoning Ordinance which establishes regulations for development and land use by dividing the City into different zones with specific restrictions and requirements based on permitted uses. Berkeley's Zoning Ordinance describes the requirements for different zones including unclassified, residential, commercial, manufacturing, and overlay districts that cover two or more districts.

A summary of the use permitting process, including the allowed uses for the zoning designation of Unclassified (U) is provided below, pursuant to BMC Section 23.208.020 (Unclassified District):

- *B. Allowed Uses*
  - All uses not prohibited by law are permitted in the U district.
  - A Use Permit is required to establish any use, consistent with the procedures in this section.
- *C. Use Permit Procedures*. The City shall review and act on Use Permit applications in the U district as follows:
  - 1. Each application shall be first submitted to the Planning Commission with the Planning Commission making a report to the Zoning Adjustments Board (ZAB). If the Planning Commission fails to take an action on the report within 30 days after a Use Permit application is deemed complete, the ZAB will consider the application without a Planning Commission report.
  - 2. After Planning Commission review, the ZAB shall take an action to approve, conditionally approve, or deny the application. The ZAB's decision is not effective until after action by the City Council. ZAB decisions may not be appealed.
  - 3. The ZAB will send a report of its decision, including findings and any conditions, together with the Planning Commission report, to the City Clerk within 14 days of final action.
  - 4. The City Council will review and act on the application within 30 days of the ZAB decision.
  - 5. The Council may affirm, reverse, or modify the ZAB decision.
- *D. Development Standards.* All development standards in the U District shall be set forth in the Use Permit, including lot size, density, building height, setbacks, building separation, lot coverage, floor area ratio (FAR), usable open space, and off-street parking.
- *E. Use Permit Findings* To approve a Use Permit in the U district, the ZAB, Planning Commission, and City Council must all make the findings in Section 23.406.030.F (Administrative Use Permits – Findings for Approval).

Berkeley Waterfront Specific Plan

The City of Berkeley Waterfront Specific Plan, adopted in 1986, establishes the waterfront as an area primarily for recreational, open space, and environmental uses, with preservation and enhancement of beaches, marshes, and other natural habitats. The Plan area consists of 170 acres of land bounded by I-80 to the east, the Berkeley Marina on the west, and the Albany and Emeryville City limits to the north and south.[5] The project site generally is not within the 170 acres of land included in the 1986 City of Berkeley Waterfront Specific Plan, with the possible exception of the underground conduit that would be installed along University Avenue and Frontage Road.

[5] Berkeley, City of. 1986. Waterfront Master Plan. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/waterfront-master-plan. (accessed May 2025).

Berkeley Marina Master Plan

The Berkeley Marina Master Plan, adopted in 2003, establishes a long-term strategy for the development and enhancement of the Berkeley Marina. It aims to maintain and preserve the Marina as a recreational and open space resource. The Plan restricts new development to replacing and remodeling existing commercial and non-profit facilities, with limited expansion allowed on a case-by-case basis. It emphasizes the conservation of open spaces, enhancement of public access, and expansion of recreational facilities. The Plan also identifies specific capital improvement projects to be implemented over the next twenty years.

Guiding Principal 1. Protect, restore, enhance, and expand wildlife habitat, open space, natural areas, and biological resources.

Policy 1B. Improve the Marina's landscaping, signage, and pedestrian amenities.

- Enhance the Marina Entrance by installing new signage and plantings to create a sense of "arrival" at the Marina.
- Improve Signage.
- Enhance the existing Public Plaza.

Guiding Principal 3. Maintain and upgrade existing infrastructure.

- Improve restroom facilities.
- Improve parking lots.

Pertinent policies are identified and addressed in detail under Impact LU-2 within this EIR section.

Berkeley Local Hazard Mitigation Plan

The Berkeley Local Hazard Mitigation Plan addresses earthquake, wildland-urban interface, extreme heat, poor air quality, high wind, rainfall-triggered landslide, tsunami, sea level rise, floods, utility interruption, hazardous materials release, and infectious disease. This plan is discussed further in Section 3.7, *Hazards and Hazardous Materials,* of this EIR.

Measure L

Measure L was passed by City of Berkeley residents through a Citywide vote in the November 1986 election. The initiative was placed on the ballot to ensure public oversight and protection of the city's parks and open spaces.[6] Measure L states that:

> "No public parks[7] or public open space[8] owned or controlled or leased by the City or agency thereof, shall be used for any other purpose than public parks and open space, without the Berkeley City Council first having submitted such use to the citizens for approval by a majority of registered Berkeley voters voting at the next general election; except that such voter approval is not required for temporary use of public parks or public open space for other purposes, if a

[6] Berkeley, City of. 1986. County of Alameda Sample Ballot & Voter Information Pamphlet, General Election, Tuesday, November 4, 1986. https://records.cityofberkeley.info/PublicAccess/api/Document/ASKSCFT%C3%89RkCNr2T1ODY3hsTG1z75QP0YrDaO8U1FrPb6FgQ4E%C3%81vUkHQzobUI6DA6zTeX0EYdcI%C3%89s81JiXIoYQi0%3D/ (accessed February 2026).

[7] "Public parks" are defined in Measure L as City of Berkeley parks, public school playgrounds or lands held in trust by a public entity, which have been formally dedicated to permanent recreational use by the City of Berkeley, and funded for recreational use by City of Berkeley public funds.

[8] Public open space" is defined in Measure L as all City of Berkeley parks, public school playgrounds, and vacant public land, whether dedicated formally to park use or being used de facto as open space with recreation use or potential use on or after January 1, 1985.

state of emergency has been declared by the Governor of the State of California under the California Emergency Services Act, Government Code Sections 8550 et. seq or by the President of the United States of America under equivalent federal law and the City Council determines that such alternative use is necessary to protect public safety within the City."[9]

City of Berkeley Code Re-Adoption Ordinance (Ordinance No. 7,906—N.S., 2024)

In June 2024, the City of Berkeley re-adopted its local building codes, incorporating local amendments to the 2022 California Building Standards Code. The ordinance updates Berkeley Municipal Code Chapters 19.28-19.37, covering the Building, Residential, Electrical, Mechanical, Plumbing, Energy, and Green Building Codes. These updates include stricter local provisions specific to Berkeley's seismic, fire, and environmental conditions. The ordinance includes:

- Mandatory undergrounding of utilities for new construction in designated fire zones (Berkeley Municipal Code 19.28.090 and 19.29.050);
- Mandatory motion-activated gas shut-off valves for new construction and certain alterations involving fuel gas piping (Berkeley Municipal Code 19.34.040);
- Enhanced EV infrastructure requirements for residential and nonresidential developments (Berkeley Municipal Code 19.37.040);
- Emergency utility disconnection authority granted to the Building Official in hazardous conditions (Berkeley Municipal Code 19.28.112).

3.9.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 *CEQA Guidelines* Appendix G significance criteria questions related to Land Use Planning.

Would the project:

a) Physically divide an established community?
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Approach to Analysis

Land Use Planning

The evaluation of proposed project impacts related to land use planning is based on a comparison of the proposed project to the applicable plans, policies, and regulations to determine if the proposed project would conflict with a plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This section also analyzes whether the proposed project would physically divide a community.

Project conflicts were assessed with regard to applicable regional land use plans and policies, specifically in the BCDC San Francisco Bay Plan, ABAG/MTC Plan Bay Area 2050, and Bay Area Air District Bay Area Clean Air Plan. In addition, project conflicts were assessed with regard to applicable local land use plans and policies, specifically the Berkeley Municipal Code related to

[9] Berkeley, City of. 1996. Berkeley Municipal Code Section 6.42.010. https://berkeley.municipal.codes/BMC/6.42.010 (accessed February 2026).

recreation, trees, and noise, Berkeley General Plan related to land use, transportation, recreation, hazards/safety, and visual character/urban design, Berkeley Climate Action Plan, Berkeley Marina Master Plan, Berkeley Local Hazard Mitigation Plan, and Berkeley Measure L. A policy inconsistency is considered a significant adverse impact only if the inconsistency would result in a significant adverse physical impact based on the established significance criterion. The analysis below provides a discussion of the most relevant policies from the various planning documents. However, the City's consistency conclusions are based upon the planning documents as a whole.

Consistency of the proposed project with the Bay Area Clean Air Plan is evaluated in detail in Section 3.2, *Air Quality.* Consistency with the Berkeley Climate Plan is evaluated in detail in Section 3.6, *Greenhouse Gas Emissions and Energy.* Consistency with the Berkeley Municipal Code with respect to protected trees is evaluated in detail in Section 3.3, *Biological Resources.* Consistency with the Berkeley Local Hazard Mitigation Plan is evaluated in detail in Section 3.7, *Hazards and Hazardous Materials.* Consistency with the Berkeley adopted land use compatibility standards with respect to noise is evaluated in detail in Section 3.10, *Noise*.

EIR Scoping Comments Consideration

This section addresses comments received in response to the EIR NOP related to various concerns regarding land use impacts.

BCDC and others provided a comment requesting that the EIR consider consistency with BCDC policies in the Bay Plan. Please refer to Table 3.9-1, which includes a discussion of consistency with pertinent policies. This comment was also made by the organization Save the Bay.

Similarly, individuals provided comments requesting that the EIR consider consistency with Measure L and the Draft Waterfront Specific Plan. Please refer to the subsection titled "Berkeley Measure L Consistency" under Impact LU-2, below, which includes a discussion of consistency with Measure L. Consistency with the Draft Waterfront Specific Plan is not discussed in this EIR, as CEQA does not require analysis of plans or policies that are in draft form and have not yet been adopted by the lead agency. CEQA Guidelines Section 15125(d) requires an EIR to evaluate consistency with "applicable plans and policies adopted for the purpose of avoiding or mitigating an environmental effect." Because the Draft Waterfront Specific Plan has not been adopted, it is not considered an applicable plan for purposes of CEQA review.

The City also received a comment regarding urban blight and urban decay. Although neither urban blight nor urban decay are potential impacts identified in Appendix G of the CEQA Guidelines, this section addresses a comment submitted by an individual that raises concerns regarding these issues. The case law cited by the commenter (*Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184*) is not applicable to the proposed project because the proposed project would not draw business or recreators away from existing businesses or recreation opportunities at the Waterfront. On the contrary, the construction of recreational and ferry facilities proposed by the project would have positive economic and social effects on the Berkeley Waterfront and surrounding areas by drawing new customers and recreators to the area. Existing businesses and existing recreational uses would continue and could flourish from increased activity at the Berkeley Waterfront.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of land use/planning impacts resulting from implementation of the proposed project.

- New or replacement land uses resulting in physically dividing a community area within Berkeley.
- New or replacement land uses conflicting with the policies, measures, and standards of the BCDC San Francisco Bay Plan, ABAG/MTC Plan Bay Area 2050, Bay Area Clean Air Plan, Berkeley General Plan, Berkeley Municipal Code, Berkeley Marina Master Plan, Berkeley Climate Action Plan, Berkeley Local Hazard Mitigation Plan, or Berkeley Measure L.

The consistency analysis describes existing regional and local plans and policies and is intended to fulfill the requirements of CEQA Guidelines Section 15125(d). The emphasis of the analysis is on the project's inconsistency and potential conflicts between the project and existing applicable land use plans adopted for the purpose of avoiding or mitigating an environmental effect, and whether inconsistencies, if any, would result in significant environmental effects. The project is considered consistent with the provisions of the identified regional and local plans if it meets the general intent of the applicable plans and does not conflict with directly applicable policies. A given project need not be in perfect conformity with each and every policy nor does state law require precise conformity of a proposed project with every policy or land use designation. Courts have also acknowledged that general and specific plans attempt to balance a range of competing interests, and that it is nearly, if not absolutely, impossible for a project to be in perfect conformity with each and every policy set forth in the applicable plan.

Impact Evaluation

Established Community Division

Significance Criterion a: Would the proposed project physically divide an established community?

Impact LU-1 THE PROPOSED PROJECT WOULD NOT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY AND NO IMPACT WOULD OCCUR.

Construction

Impacts related to physical division of an established community primarily occur from the implementation of infrastructure that could physically divide a community, such as a roadway that limits movement. Construction would include landside improvements, including to the public plaza, improvements to University Avenue and Seawall Drive, renovation of the parking lot, construction of a new Bay Trail Extension, and implementation of associated amenities and utilities. Waterside construction would include construction of the new pier, breakwater, and associated amenities for recreation and the ferry. Activities would include demolition, dredging, pile-installation, installation of the deck, float, and gangway. To the extent that construction activities obstruct roads, it would be temporary and would not constitute a division of an established community (the Berkeley Marina in this case). Therefore, no impacts related to potential division of a community would occur due to construction of the project.

Operation

The project site has a Berkeley General Plan land use designation of Waterfront/Marina and a zoning designation of Unclassified (U), with existing land uses within the project site including recreation, restaurant, marina, and transportation uses (roadways and surface parking). The proposed project would involve the operation of a new ferry, at the same location as the existing closed pier, and would establish the following land uses: (1) new infrastructure to support zero-emission ferry service and (2) expanded recreational access. As described in Section 3.9.3, all uses not prohibited by law are allowed in an Unclassified District, and a Use Permit is required to establish any use in an Unclassified District. As such project operation is not prohibited by existing zoning designations.

The established community located near the project site includes the people who reside on the live-aboard boats within the Berkeley Marina. No new or altered operations would occur within the Berkeley Marina Basin, and no permanent infrastructure would be established that would divide this community. Existing and improved roadways would not be permanently blocked, access to the community would not be limited, and movement within the community would not be limited. Therefore, no operational impact related to the potential division of an established community would occur.

Mitigation Measures

No mitigation would be required.

Significance After Mitigation

No Impact

Consistency with Land Use Plans and Policies

Significance Criterion b:	Would the proposed project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Impact LU-2 OPERATION AND CONSTRUCTION OF THE PROPOSED PROJECT WOULD BE CONSISTENT WITH THE GOALS AND POLICIES OF THE BERKELEY GENERAL PLAN, BAY AREA CLEAN AIR PLAN, ABAG/MTC PLAN BAY AREA 2050, BERKELEY MARINA MASTER PLAN, BERKELEY LOCAL HAZARD MITIGATION PLAN, BERKELEY CLIMATE ACTION PLAN, AND BERKELEY MEASURE L, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT. OPERATION AND CONSTRUCTION OF THE PROPOSED PROJECT WOULD BE CONSISTENT WITH THE GOALS AND POLICIES OF THE BCDC SAN FRANCISCO BAY PLAN WITH INCORPORATION OF MITIGATION. CONSTRUCTION OF THE PROPOSED PROJECT WOULD NOT BE CONSISTENT WITH POLICES RELATED TO NOISE IN THE BERKELEY MUNICIPAL CODE, AND IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Construction and Operation

BCDC SAN FRANCISCO BAY PLAN CONSISTENCY

Given the project location within 100 feet of the San Francisco Bay shoreline, the BCDC San Francisco Bay Plan would be applicable in terms of land use planning. BCDC will determine whether the proposed project is consistent with the McAteer-Petris Act and Bay Plan policies. Such determinations are made by BCDC on a case-by-case basis when considering permit applications. The City's evaluation of project consistency with applicable BCDC San Francisco Bay Plan policies is discussed in Table 3.9-1.

Table 3.9-1 BCDC San Francisco Bay Plan Consistency

Policy	Consistency
Fish, Other Aquatic Organisms and Wildlife	
Policy 1. To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored, and increased.	**Consistent**. The City would mitigate all impacts on aquatic resources to address adverse effects, in accordance with Mitigation Measure Bio-3. Implementation of this compensatory mitigation would result in the preservation of aquatic resources.
Policy 2. Native species, including candidate, threatened, and endangered species; species that the California Department of Fish and Wildlife, the National Marine Fisheries Service, and/or the U.S. Fish and Wildlife Service have listed under the California or Federal Endangered Species Act; and any species that provides substantial public benefits, as well as specific habitats that are needed to conserve, increase, or prevent the extinction of these species, should be protected, whether in the Bay or behind dikes. Protection of fish, other aquatic organisms, and wildlife and their habitats may entail placement of fill to enhance the Bay's ecological function in the near-term and to ensure that they persist into the future with sea level rise.	**Consistent.** Section 3.3, Biological Resources, of the Draft EIR, includes mitigation measures to avoid and minimize impacts on fish, other aquatic organisms and wildlife, and mitigate unavoidable impacts. For all the mitigation measures that would be implemented to protect biological resources, please refer to the *Mitigation Measures* subsection below.
Policy 4. The Commission should: a. Consult with the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species; b. Not authorize projects that would result in the "taking" of any plant, fish, other aquatic organism or wildlife species listed as endangered or threatened pursuant to the state or federal Endangered Species Acts, or the federal Marine Mammal Protection Act, or species that are candidates for listing under these acts, unless the project applicant has obtained the appropriate "take" authorization from the U.S. Fish and Wildlife Service, National Marine Fisheries Service or the California Department of Fish and Wildlife; and c. Give appropriate consideration to the recommendations of the California Department of Fish and Wildlife, the National Marine Fisheries Service or the U.S. Fish and Wildlife Service in order to avoid possible adverse effects of a proposed project on fish, other aquatic organisms and wildlife habitat.	**Consistent.** The City would obtain all necessary permits from CDFW and NMFS (if necessary), as identified in Section 2.9 in Chapter 2, *Project Description*. The City would also coordinate with U.S. Army Corps of Engineers for a permit, and USACE will determine if there is a need to consult with USFWS. The City has already begun coordinating with CDFW. On May 8, 2025, the City met with representatives of CDFW, San Francsico RWQCB, and USACE, as part of an interagency meeting. During that meeting, mitigation was discussed conceptually, and the City has incorporated comments from these agencies, as well as comments received during CEQA scoping as part of the mitigation program. The City will continue to coordinate the mitigation program with all applicable agencies.
Water Quality	
Policy 1. Bay water pollution should be prevented to the greatest extent feasible. The Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources and beneficial uses.	**Consistent.** Please refer to Section 3.8, *Hydrology and Water Quality.* The project would be subject to regulatory requirements that would prevent Bay water pollution during construction, including preparation of a SWPPP and implementation of BMPs in accordance with the State Water Resources Control Board's Construction Stormwater General Permit. In addition, implementation of Mitigation Measures HYD-1, HYD-2, and HYD-3 would include additional requirements during construction that would further prevent Bay water pollution. As described in Section 3.8, *Hydrology and Water Quality*, adherence to existing regulations, operation of proposed project would not violate water quality standards. The City would mitigate all impacts on aquatic resources to address adverse effects, in accordance with Mitigation Measure Bio-3. Implementation of this compensatory mitigation would result in the preservation of aquatic resources. Regarding water surface area and volume, please see Consistency with Water Surface Area and Volume Policy 1. The project does not have any features that would impede freshwater inflow.
Policy 2. Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan, San Francisco Bay Basin and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board, should be the basis for carrying out the Commission's water quality responsibilities.	**Consistent.** Please see Consistency with Water Quality Policy 1. Please note that applicable permits from the San Francisco RWQCB would be obtained prior to implementation of the project.
Policy 3. New projects should be sited, designed, constructed and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain nonpolluting materials; and (c) applying appropriate, accepted and effective best management practices, especially where water dispersion is poor and near shellfish beds and other significant biotic resources.	**Consistent.** As discussed in Section 3.8, *Hydrology and Water Quality*, temporary, permanent, and operation BMPs to control sources of pollution, minimize runoff quantity, and improve runoff quality prior to discharge into San Francisco Bay and its tributaries would be identified and implemented in accordance with local, state, and federal water quality requirements, which would protect water quality of affected waterbodies.
Policy 4. When approving a project in an area polluted with toxic or hazardous substances, the Commission should coordinate with appropriate local, state and federal agencies to ensure that the project will not cause harm to the public, to Bay resources, or to the beneficial uses of the Bay.	**Consistent.** As discussed in Section 3.7, *Hazards and Hazardous Materials*, the project would include Phase I environmental site assessments to document locations with known contamination, suspected contamination, or both; coordinate with appropriate regulatory agencies; and implement remedial actions where necessary.
Policy 6. To protect the Bay and its tributaries from the water quality impacts of nonpoint source pollution, new development should be sited and designed consistent with standards in municipal stormwater permits and state and regional stormwater management guidelines, where applicable, and with the protection of Bay resources. To offset impacts from increased impervious areas and land disturbances, vegetated swales, permeable pavement materials, preservation of existing trees and vegetation' planting native vegetation and other appropriate measures should be evaluated and implemented where appropriate.	**Consistent.** As discussed in Section 3.8, *Hydrology and Water Quality*, the project would be designed consistent with regulatory requirements from municipal stormwater permits and state and regional stormwater management guidelines. As part of the project design, bioretention facilities and permeable pavement are proposed.

Policy	Consistency
Policy 7. Whenever practicable, native vegetation buffer areas should be provided as part of a project to control pollutants from entering the Bay, and vegetation should be substituted for rock riprap, concrete, or other hard surface shoreline and bank erosion control methods where appropriate and practicable.	**Consistent.** The project would include native vegetation bioretention features to control pollutants from entering the Bay. Regarding shoreline and bank erosion control methods, please see Consistency with Shoreline Protection Policy 1 and 2 below.
Water Surface Area and Volume	
Policy 1. The surface area of the Bay and the total volume of water should be kept as large as possible in order to maximize active oxygen interchange, vigorous circulation, and effective tidal action. Filling and diking that reduce surface area and water volume should therefore be allowed only for purposes providing substantial public benefits and only if there is no reasonable alternative.	**Consistent.** Given that the proposed project is not introducing any dikes, and that the proposed project would introduce a new pier in the location of an existing pier, substantial changes to the existing environment as it relates to water surface area, water volume, and water circulation is not expected. The proposed project includes mitigation to remove fill (in the form of removing piles from the existing pier) to mitigate the fill impacts associated with the project (see Mitigation Measure Bio-3 in Section 3.3, *Biological Resources*).
Policy 2. Water circulation in the Bay should be maintained, and improved as much as possible. Any proposed fills, dikes, or piers should be thoroughly evaluated to determine their effects upon water circulation and then modified as necessary to improve circulation or at least to minimize any harmful effects	**Consistent.** See Consistency with Water Surface Area and Volume Policy 1.
Tidal Marshes and Tidal Flats	
Policy 1. Tidal marshes and tidal flats should be conserved to the fullest possible extent. Filling, diking, and dredging projects that would substantially harm tidal marshes or tidal flats should be allowed only for purposes that provide substantial public benefits and only if there is no feasible alternative.	**Consistent.** The project would not affect tidal marshes. The City would mitigate all impacts on aquatic resources to address adverse effects, in accordance with Mitigation Measure Bio-3. Implementation of this compensatory mitigation would result in the preservation of aquatic resources. See Consistency with Subtidal Areas Policy 1 regarding public benefits.
Policy 2. Any proposed fill, diking, or dredging project should be thoroughly evaluated to determine the effect of the project on tidal marshes and tidal flats, and designed to minimize, and if feasible, avoid any harmful effects.	**Consistent.** See Consistency with Tidal Marshes and Tidal Flats Policy 1.
Policy 3. Projects should be sited and designed to avoid, or if avoidance is infeasible, minimize adverse impacts on any transition zone present between tidal and upland habitats. Where a transition zone does not exist and it is feasible and ecologically appropriate, shoreline projects should be designed to provide a transition zone between tidal and upland habitats.	**Not Applicable.** A transition zone does not currently exist between the tidal and upland areas. Where the tidal area meets the upland areas, there are no upland habitats. Rather, the upland area consists of Seawall Drive and the current pier entry area. The project would include a new public plaza and Bay Trail Extension in these areas.
Smog and Weather	
Policy 1. To the greatest extent feasible, the remaining water volume and surface area of the Bay should be maintained.	**Consistent.** See Consistency with Water Surface Area and Volume Policy 1.
Subtidal Areas	
Policy 1. Any proposed filling or dredging project in a subtidal area should be thoroughly evaluated to determine the local and Bay-wide effects of the project on: (a) the possible introduction or spread of invasive species; (b) tidal hydrology and sediment movement; (c) fish, other aquatic organisms and wildlife; (d) aquatic plants; and (e) the Bay's bathymetry. Projects in subtidal areas should be designed to minimize and, if feasible, avoid any harmful effects.	**Consistent.** Please refer to Impact BIO-2 in Section 3.3, *Biological Resources,* which provides an overview of the potential impacts from the spread of invasive species. Mitigation Measure BIO-2 would require practices be set in place to reduce the spread of invasive species and impacts were found to be less than significant after implementation of this mitigation measure. In addition, impacts on fish, aquatic organisms, wildlife, and aquatic plants are addressed in Impact BIO-1 and Impact BIO-4. Impacts were found to be less than significant after mitigation. Please refer to Impact HYD-1 in Section 3.8 *Hydrology and Water Quality* for analysis of potential impacts on tidal hydrology and sediment movement. Overall, water quality impacts related to tidal hydrology and sediment movement were found to be less than significant after the application of Mitigation Measure HYD-1, which would require additional BMPs for the SWPPP during pier removal and construction. Section 3.7 *Hazards and Hazardous Materials* identifies less than significant impacts from dredging activities in Impact HAZ-1, presenting the findings from a Coastal Study[10] which thoroughly evaluated the potential effects of the project on tidal hydrology and sediment movement through study and mapping of the Bay's bathymetry in five dredge units in the project vicinity.
Policy 2. Subtidal areas that are scarce in the Bay or have an abundance and diversity of fish, other aquatic organisms and wildlife (e.g., eelgrass beds, sandy deep water or underwater pinnacles) should be conserved. Filling, changes in use; and dredging projects in these areas should therefore be allowed only if: (a) there is no feasible alternative; and (b) the project provides substantial public benefits.	**Consistent.** See Consistency with Subtidal Areas Policy 1.
Environmental Justice and Social Equity	
Policy 1. The Commission's guiding principles on environmental justice and social equity should shape all of its actions and activities	**Consistent**. The project would not preclude the implementation of this policy. The City considered environmental justice in the development of the project and the potential impacts on environmental justice populations in a report on Environmental Justice.[11] Input from environmental justice communities informed the design of the project.
Policy 3. Equitable, culturally-relevant community outreach and engagement should be conducted by local governments and project applicants to meaningfully involve potentially impacted communities for major projects and appropriate minor projects in underrepresented and/or identified vulnerable and/or disadvantaged communities, and such outreach and engagement should continue throughout the Commission review and permitting processes. Evidence of how community concerns were addressed should be provided. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action.	**Consistent**. Targeted outreach activities for minority and low-income residents and businesses were conducted in 2025. The Environmental Justice Existing Conditions and Constraints Technical Study includes a summary of environmental justice engagement and community outreach, as well as how comments from environmental justice communities were addressed.[12]

[10] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study prepared for City of Berkeley. December.[11] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.
[11] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.
[12] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.

Policy	Consistency
Policy 4. If a project is proposed within an underrepresented and/or identified vulnerable and/or disadvantaged community, potential disproportionate impacts should be identified in collaboration with the potentially impacted communities. Local governments and the Commission should take measures through environmental review and permitting processes, within the scope of their respective authorities, to require mitigation for disproportionate adverse project impacts on the identified vulnerable or disadvantaged communities in which the project is proposed.	**Consistent**. Census Tract 4220, which intersects the project site, is impacted by social and contamination vulnerability factors and is designated by the Metropolitan Transportation Commission as an Equity Priority Community. Potential impacts to this community have been considered in the Environmental Justice Existing Conditions and Constraints Technical Study.[13] No disproportionate adverse impacts were identified.
Climate Change	
Policy 2. When planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices.	**Consistent.** As described in Chapter 2.5.1, *Project Description, Waterside* a Coastal Study was prepared by registered professional civil engineers at COWI.[14] The proposed project would be designed to address projected sea level rise, consistent with the 2024 California Sea Level Rise Guidance.
Policy 3. To protect public safety and ecosystem services, within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects—other than repairs of existing facilities, small projects that do not increase risks to public safety, interim projects and infill projects within existing urbanized areas—should be designed to be resilient to a mid-century sea level rise projection. If it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise based on a risk assessment using the best available science-based projection for sea level rise at the end of the century.	**Consistent.** See Consistency with Climate Change Policy 2.
Policy 5. Wherever feasible and appropriate, effective, innovative sea level rise adaptation approaches should be encouraged	**Consistent**. See Consistency with Climate Change Policy 2. Please also note that the project includes electric ferry service, which could be considered an innovative strategy to address climate change.
Policy 7. The Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts. The following specific types of projects have regional benefits, advance regional goals, and should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding: b. transportation facility, public utility or other critical infrastructure that is necessary for existing development or to serve planned development	**Consistent**. See Consistency with Climate Change Policy 1. The proposed ferry service is consistent with a category of the specific types of projects identified to have regional benefits and advance regional goals. The proposed ferry service is a transportation facility and critical infrastructure that would serve existing development. WETA's business plan indicates that "West Berkeley currently is not well served by regional transit providers, introducing ferry service provides improved access to more jobs in San Francisco, expanding the economic opportunities available to residents."[15] Thus, the project would provide service to the existing development in West Berkeley. The project is a transportation project that would have the overall effect of reducing vehicle miles travelled and greenhouse gas emissions. The project would provide passenger ferry service, and as a result, it is anticipated that people would shift trips from on-road vehicles to the ferry system, which is less emissions-intensive than other transportation modes. Additionally, the project would provide critical infrastructure in the form of providing emergency water transit when regional transportation systems are disrupted due to disaster or other events
Shoreline Protection	
Policy 1. New shoreline protection projects and the maintenance or reconstruction of existing projects and uses should be authorized if: (a) the project is necessary to provide flood or erosion protection for (i) existing development, use or infrastructure, or (ii) proposed development, use or infrastructure that is consistent with other Bay Plan policies; (b) the type of the protective structure is appropriate for the project site, the uses to be protected, and the causes and conditions of erosion and flooding at the site; (c) the project is properly engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account; (d) the project is properly designed and constructed to prevent significant impediments to physical and visual public access; (e) the protection is integrated with current or planned adjacent shoreline protection measures; and (f) adverse impacts to adjacent or nearby areas, such as increased flooding or accelerated erosion, are avoided or minimized. If such impacts cannot be avoided or minimized, measures to compensate should be required. Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design.	**Consistent.** The proposed project includes the implementation of shoreline revetment, in the form of rock rip rap slope protection along a stretch of the shoreline that is actively eroding. This stretch of shoreline measures approximately 300 feet in length and is located on the eastern side Seawall Peninsula, just north of the 199 Seawall Drive structure. Shoreline revetment shall be restored to match surrounding by implementing Caltrans standard, which shall include a minimum of geotextile fabric, bedding layer and riprap. This shoreline revetment is necessary to provide erosion protection for the parking lot off Seawall Drive. The design is being developed by a group of civil engineers experienced in the coastal processes and knowledgeable of BCDC concerns.
Policy 2. Equitable and culturally-relevant community outreach and engagement should be conducted to meaningfully involve nearby communities for all shoreline protection project planning and design processes – other than maintenance and in-kind repairs to existing protection structures or small shoreline protection projects – in order to supplement technical analysis with local expertise and traditional knowledge and reduce unintended consequences. In particular, vulnerable, disadvantaged, and/or underrepresented communities should be involved. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action.	**Consistent**. The shoreline revetment associated with the project would be considered an in-kind repair to an existing protection structure that is actively eroding.

[13] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.
[14] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study prepared for City of Berkeley. December.
[15] WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17, 2022. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf. (accessed January 2026).

Policy	Consistency
Policy 3. Riprap revetments, the most common shoreline protective structure, should be constructed of properly sized and placed material that meet sound engineering criteria for durability, density, and porosity. Armor materials used in the revetment should be placed according to accepted engineering practice, and be free of extraneous material, such as debris and reinforcing steel. Generally, only engineered quarry stone or concrete pieces that have either been specially cast, are free of extraneous materials from demolition debris, and are carefully selected for size, density, and durability will meet these requirements.	**Consistent.** The riprap revetment is designed by professional coastal engineers based on sound engineering practice and criteria.
Policy 5. All shoreline protection projects should evaluate the use of natural and nature-based features such as marsh vegetation, levees with transitional ecotone habitat, mudflats, beaches, and oyster reefs, and should incorporate these features to the greatest extent practicable. Ecosystem benefits, including habitat and water quality improvement, should be considered in determining the amount of fill necessary for the project purpose. Suitability and sustainability of proposed shoreline protection and restoration strategies at the project site should be determined using the best available science on shoreline adaptation and restoration. Airports may be exempt from incorporating natural and nature-based features that could endanger public safety by attracting potentially hazardous wildlife.	**Consistent.** See Consistency with Shoreline Protection Policy 1. The shoreline revetment associated with the proposed project would be for a small portion of the existing shoreline where rock rip rap already exists. The shoreline revetment associated with the project would be considered an in-kind repair to an existing protection structure that is actively eroding.
Policy 6. Adverse impacts to natural resources and public access from new shoreline protection should be avoided. When feasible, shoreline protection projects should include components to retain safe and convenient water access, for activities such as fishing, swimming, and boating, especially in communities lacking such access. Where significant impacts cannot be avoided, mitigation or alternative public access should be provided. Shoreline protection projects that include natural and nature-based features may be self-mitigating or require less mitigation than projects that do not include any natural or nature-based features.	**Consistent.** Although the proposed project is not specifically a shoreline protection project, it would improve public access to the shoreline through recreational enhancement in addition to offering ferry-based transportation. Development of the proposed project would not preclude safe and convenient water access for activities such as fishing, boating, and swimming. WETA and the City will coordinate with ECRB to ensure nature-based solutions and mitigation where necessary,
Dredging	
Policy 1. Dredging and dredged material disposal should be conducted in an environmentally and economically sound manner. Dredgers should reduce disposal in the Bay and certain waterways over time to achieve the L TMS goal of limiting in-Bay disposal volumes to a maximum of one million cubic yards per year. The L TMS agencies should implement a system of disposal allotments to individual dredgers to achieve this goal only if voluntary efforts are not effective in reaching the L TMS goal. In making its decision regarding disposal allocations, the Commission should confer with the LTMS agencies and consider the need for the dredging and the dredging projects, environmental impacts, regional economic impacts, efforts by the dredging community to implement and fund alternatives to in-Bay disposal, and other relevant factors. Small dredgers should be exempted from allotments, but all dredgers should comply with policies 2 through 12.	**Consistent.** Please refer to Section 3.8, *Hydrology and Water Quality.* As required by Mitigation Measure HYD-1, all dredged materials shall be reused for beneficial purposes to the maximum extent feasible. Pacific EcoRisk Environmental Consulting sampled and analyzed sediments within the five dredge units within the project area in accordance with the Inland Testing Manual[16], site-specific requirements for the proposed reuse sites, and the United States Army Corps of Engineer's Dredged Material Management Office. The sampling and analysis included evaluation of the sediments for placement at disposal sites in San Francisco Bay, the Cullinan Ranch Restoration Project (CRRP), and the Montezuma Wetlands Restoration Project (MWRP) beneficial reuse sites. Based on the findings of the sampling and analysis the sediments are suitable for reuse as summarized below: ▪ Dredge Unit 1: Unconfined aquatic disposal in San Francisco Bay and MWRP ▪ Dredge Units 2, 3, and 5: Unconfined aquatic disposal in San Francisco Bay and CRRP, and MWRP ▪ Dredge Unit 4: CRRP and MWRP[17]
Policy 2. Dredging should be authorized when the Commission can find: (a) the applicant has demonstrated that the dredging is needed to serve a water-oriented use or other important public purpose, such as navigational safety; (b) the materials to be dredged meet the water quality requirements of the San Francisco Bay Regional Water Quality Control Board; (c) important fisheries and Bay natural resources would be protected through seasonal restrictions established by the California Department of Fish and Game, the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service, or through other appropriate measures; (d) the siting and design of the project will result in the minimum dredging volume necessary for the project; and (e) the materials would be disposed of in accordance with Policy 3.	**Consistent.** The project, which would provide ferry service would be considered a water-oriented use. The City would obtain a permit from the San Francisco RWQCB and has identified mitigation to reduce water quality impacts from dredging (see Section 3.8, *Hydrology and Water Quality*). As shown in Section 2.9 of Chapter 2, *Project Description*, the City would obtain all necessary permits from CDFW and NMFS. The City would also coordinate with U.S. Army Corps of Engineers for a permit, and USACE will determine if there is a need to consult with USFWS. As required by Mitigation Measure BIO-1(d), seasonal restrictions would be established to protect important fisheries and Bay natural resources. The siting for dredging is along the existing 100-foot wide USACE-designated federal navigation channel that parallels the closed pier. Given the cost associated with dredging, the design of the project will result in the minimum dredging volume necessary to allow for ferry vessel operations. See Consistency with Dredging Policy 1.
Policy 3. Dredged materials should, if feasible, be reused or disposed outside the Bay and certain waterways. Except when reused in an approved fill project, dredged material should not be disposed in the Bay and certain waterways unless disposal outside these areas is infeasible and the Commission finds: (a) the volume to be disposed is consistent with applicable dredger disposal allocations and disposal site limits adopted by the Commission by regulation; (b) disposal would be at a site designated by the Commission; (c) the quality of the material disposed of is consistent with the advice of the San Francisco Bay Regional Water Quality Control Board and the inter-agency Dredged Material Management Office (DMMO); and (d) the period of disposal is consistent with the advice of the California Department of Fish and Game, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.	**Consistent.** See Consistency with Dredging Policy 1.
Policy 4. If an applicant proposes to dispose dredged material in tidal areas of the Bay and certain waterways that exceeds either disposal site limits or any disposal allocation that the Commission has adopted by regulation, the applicant must demonstrate that the potential for adverse environmental impact is insignificant and that non-tidal and ocean disposal is infeasible because there are no alternative sites available or likely to be available in a reasonable period, or because the cost of disposal at alternate sites is prohibitive. In making its decision whether to authorize such in Bay disposal, the Commission should confer with the L TMS agencies and consider the factors listed in Policy 1.	**Consistent.** See Consistency with Dredging Policy 1.

[16] USEPA/USACE. 1998. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual – Inland Testing Manual. U.S. Environmental Protection Agency/U.S. Army Corps of Engineers. EPA-823-B-94-002. U.S. Environmental Protection Agency, Office of Water (4305). Available: https://www.epa.gov/sites/default/files/2015-08/documents/inland_testing_manual_0.pdf (accessed February 2026).
[17] Pacific EcoRisk. 2025. Characterization of the Sediment from Berkeley Water Transportation Pier Ferry Project: Results of Sediment Sampling and Analysis. September 19.

Policy	Consistency
Policy 5. To ensure adequate capacity for necessary Bay dredging projects and to protect Bay natural resources, acceptable non-tidal disposal sites should be secured and the Deep Ocean Disposal Site should be maintained. Further, dredging projects should maximize use of dredged material as a resource consistent with protecting and enhancing Bay natural resources, such as creating, enhancing, or restoring tidal and managed wetlands, creating and maintaining levees and dikes, providing cover and sealing material for sanitary landfills, and filling at approved construction sites.	**Consistent.** See Consistency with Dredging Policy 1.
Policy 6. Dredged materials disposed in the Bay and certain waterways should be carefully managed to ensure that the specific location, volumes, physical nature of the material, and timing of disposal do not create navigational hazards, adversely affect Bay sedimentation, currents or natural resources, or foreclose the use of the site for projects critical to the economy of the Bay Area.	**Consistent.** See Consistency with Dredging Policy 1.
Policy 7. All proposed channels, berths, turning basins, and other dredging projects should be carefully designed so as not to undermine the stability of any adjacent dikes, fills or fish and wildlife habitats.	**Consistent.** There are no dikes near the project site that could be undermined. Please refer to Section 3.3, *Biological Resources*, which indicates that impacts from dredging related to fish and wildlife habitats would be less than significant.
Policy 9. To protect underground fresh water reservoirs (aquifers): (a) all proposals for dredging or construction work that could penetrate the mud "cover" should be reviewed by the San Francisco Bay Regional Water Quality Control Board and the State Department of Water Resources; and (b) dredging or construction work should not be permitted that might reasonably be expected to damage an underground water reservoir. Applicants for permission to dredge should provide additional data on groundwater conditions in the area of construction to the extent necessary and reasonable in relation to the proposed project.	**Not Applicable.** Dredging would occur in the Bay where it would not affect underground fresh water reservoirs (aquifers).
Policy 10. Interested agencies and parties are encouraged to explore and find funding solutions for the additional costs incurred by transporting dredged materials to nontidal and ocean disposal sites, either by general funds contributed by ports and other relevant parties, dredging applicants or otherwise.	**Consistent.** The City and WETA would not preclude implementation of this policy. The City and WETA are exploring funding for the proposed project, including funding for dredging disposal.
Transportation	
Policy 1. Because of the continuing vulnerability of the Bay to filling for transportation projects, the Commission should continue to take an active role in Bay Area regional transportation and related land use planning affecting the Bay, particularly to encourage alternative methods of transportation and land use planning efforts that support transit and that do not require fill. The Metropolitan Transportation Commission, the California Department of Transportation, the California Transportation Commission, the Federal Highway Administration, county congestion management agencies and other public and private transportation authorities should avoid planning or funding roads that would require fill in the Bay and certain waterways.	**Consistent.** The proposed project would not include any roadways that would require fill.
Policy 4. Transportation projects on the Bay shoreline and bridges over the Bay or certain waterways should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails. Transportation projects should be designed to maintain and enhance visual and physical access to the Bay and along the Bay shoreline.	**Consistent.** The project would include pedestrian and bicycle facilities that would connect to the Bay Trail and also form a part of the Bay Trail (along Seawall Drive). The proposed project would maintain and enhance visual and physical access to the Bay through the proposed pier, as well as the public plaza and the Bay Trail Extension.
Policy 5. Ferry terminals should be sited at locations that are near navigable channels, would not rapidly fill with sediment and would not significantly impact tidal marshes, tidal flats or other valuable wildlife habitat. Wherever possible, terminals should be located near higher density, mixed-use development served by public transit. Terminal parking facilities should be set back from the shoreline to allow for public access and enjoyment of the Bay.	**Consistent.** The siting for the ferry terminal is along the existing 100-foot wide USACE-designated federal navigation channel that parallels the closed pier. Sedimentation rates were identified as part of the Coastal Study, which was prepared by registered professional civil engineers at COWI.[18] This coastal study indicated that "sedimentation was < 0.05 ft in the 2020-2023 period, indicating practically no sedimentation." There are no tidal marshes near the project site. Please refer to Section 3.3, *Biological Resources,* which indicates that there would be less than significant impacts on wildlife habitat after the implementation of mitigation, including Mitigation Measure BIO-3, which would require the removal of fill associated with portions of the exiting pier. While there is no higher density, mixed-use development next to the project site, the project is served by public transit (AC Transit) and includes infrastructure that would allow for expanded AC transit service. Parking for ferry patrons would be at **the** Seawall Drive Parking Lot, Skates/N, and the Marina Blvd Lot, all of which are set back away from the shoreline. The proposed project would provide amenities that would allow for public access and enjoyment of the Bay. The proposed project includes parking to allow for Bay viewing, as well as green space and a portion of the Bay Trail Extension with benches for the enjoyment of the Bay.
Recreation	
Policy 7. Because of the need to increase the recreational opportunities available to Bay Area residents, small amounts of Bay fill may be allowed for waterfront parks and recreational areas that provide substantial public benefits and that cannot be developed without some filling.	**Consistent.** The proposed pier and breakwater would provide recreational opportunities to the Bay. As such, the fill would be allowed if it provides substantial public benefits and cannot be developed without some filling. Since the proposed project will provide an alternative form of transportation that will reduce vehicle miles traveled and greenhouse gas emissions, as well as providing a new recreational opportunity to access the Bay, the proposed project will result in substantial public benefits.

[18] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study prepared for City of Berkeley. December.

Policy	Consistency
Policy 9. Ferry terminals may be allowed in waterfront park priority use areas and marinas and near fishing piers and launching lanes, provided the development and operations of the ferry facilities do not interfere with current or future park and recreational uses, and navigational safety can be assured. Terminal configuration and operation should not disrupt continuous shoreline access. Facilities provided for park and marina patrons, such as parking, should not be usurped by ferry patrons. Shared parking arrangements should be provided to minimize the amount of shoreline area needed for parking.	**Consistent.** The proposed ferry facility is located within a waterfront park priority use area and would be located at the proposed pier that will also be used for fishing, sight-seeing, and walking. The proposed ferry facility would not interfere with current or future park and recreational users. This project would actually enhance recreational use by providing a pier that can be used for recreation. Navigational safety would be assured through adherence to WETA safety protocols. The project would not disrupt shoreline access; in fact, the project would restore shoreline access that is not publicly available under existing conditions. Regarding parking facilities, the City would implement a parking strategy to balance shared-use parking for both future ferry patrons and recreational users. The exact strategies that would be implemented would follow the guidelines established in the project Parking and TDM Plan[19,20] and may be subject to approval from BCDC via the Project permitting process. It should be noted that consistency with this policy related to parking would not be considered an environmental impact under CEQA. Please refer to Chapter 3, *Environmental Impact Analysis*, for a discussion about how parking is addressed in this EIR. This EIR has found no secondary environmental impacts related to parking.
Public Access	
Policy 1. A proposed fill project should increase public access to the Bay to the maximum extent feasible, in accordance with the policies for Public Access to the Bay.	**Consistent.** The proposed project would increase public access opportunities with the installation of a pier and breakwater, the development of pedestrian and bicycle facilities connecting to the Bay Trail, and roadway safety improvements at the nearby public transit stops.
Policy 2. In addition to the public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources. In these cases, in lieu access at another location, preferably near the project should be provided. If in lieu public access is required and cannot be provided near the project site, the required access should be located preferably near identified vulnerable or disadvantaged communities lacking well-maintained and convenient public access in order to foster more equitable public access around the Bay Area.	**Consistent.** As described under Consistency with Public Access Policy 1, public access would be provided as part of the project design.
Policy 4. Public access should be sited, designed and managed to prevent significant adverse effects on wildlife. To the extent necessary to understand the potential effects of public access on wildlife, information on the species and habitats of a proposed project site should be provided, and the likely human use of the access area analyzed. In determining the potential for significant adverse effects (such as impacts on endangered species, impacts on breeding and foraging areas, or fragmentation of wildlife corridors), site specific information provided by the project applicant, the best available scientific evidence, and expert advice should be used. In addition, the determination of significant adverse effects may also be considered within a regional context. Siting, design and management strategies should be employed to avoid or minimize adverse effects on wildlife, informed by the advisory principles in the Public Access Design Guidelines. If significant adverse effects cannot be avoided or reduced to a level below significance through siting, design and management strategies, then in lieu public access should be provided, consistent with the project and providing public access benefits equivalent to those that would have been achieved from on-site access. Where appropriate, effects of public access on wildlife should be monitored over time to determine whether revisions of management strategies are needed.	**Consistent.** Please refer to Impact BIO-1 in Section 3.3, *Biological Resources*, which indicates that operation of the proposed project, including the pier would not result in significant impacts on wildlife.
Policy 5. Public access that substantially changes the use or character of the site should be sited, designed, and managed based on meaningful community involvement to create public access that is inclusive and welcoming to all and embraces local multicultural and indigenous history and presence. In particular, vulnerable, disadvantaged, and/or underrepresented communities should be involved. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action.	**Consistent**. The City considered environmental justice in the development of the project and the potential impacts on environmental justice populations in a report on Environmental Justice.[21] Input from environmental justice communities informed the design of the project.
Policy 6. Public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding.	**Consistent.** As described in Chapter 2.5.1, *Project Description, Waterside* a Coastal Study was prepared by registered professional civil engineers at COWI.[22] The proposed project would be designed to address projected sea level rise, consistent with the 2024 California Sea Level Rise Guidance.
Policy 7. Whenever public access to the Bay is provided as a condition of development, on fill or on the shoreline, the access should be permanently guaranteed. This should be done wherever appropriate by requiring dedication of fee title or easements at no cost to the public, in the same manner that streets, park sites, and school sites are dedicated to the public as part of the subdivision process in cities and counties. Any public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby.	**Not Applicable**. The public access to the Bay associated with the proposed project is not a condition of development. Nonetheless, as a public City project, the proposed pier and breakwater would be permanently guaranteed to the public.

[19] Berkeley, City of. 2025. Water Transportation Pier-Ferry Project Parking and TDM Plan. Public Draft. Prepared by Kittelson & Associates. March 7. Available: https://berkeleyca.gov/sites/default/files/documents/Berkeley-WTPF-Parking-and-TDM-Plan-March-2025-Public-Draft.pdf (accessed October 2025).
[20] Berkeley, City of. 2025. Water Transportation Pier-Ferry Project Parking and TDM Plan Addendum. Revised Draft. Prepared by Kittelson & Associates. May 7. Available: https://berkeleyca.gov/sites/default/files/documents/Addendum_Draft-Water-Transportation-Pier-Ferry-Project-Parking-and-TDM-Plan.pdf (accessed October 2025).
[21] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.
[22] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study prepared for City of Berkeley. December.

Policy	Consistency
Policy 8. Public access improvements provided as a condition of any approval should be consistent with the project, the culture(s) of the local community, and the physical environment, including protection of Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience. The improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should provide barrier free access for persons with disabilities, for people of all income levels, and for people of all cultures to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs, including using appropriate languages or culturally-relevant icon-based signage.	**Consistent**. The design of the proposed project has considered the local community. The City considered environmental justice in the development of the project and the potential impacts on environmental justice populations as documented in a report on Environmental Justice.[23] Input from environmental justice communities informed the design of the project. In addition, as required by Mitigation Measure TCR-2, which was developed in consultation with Native American Tribes, interpretive signs would acknowledge Native American History (see Section 3.13, *Tribal Cultural Resources*). The design of the proposed project has also considered the environment and mitigation strategies have been developed to reduce impacts to biological resources to a less than significant level. Furthermore, the new access would be open and free for use by all. Americans with Disabilities Act design requirements would apply to assure accessibility for persons with disabilities.
Policy 9. In some areas, a small amount of fill may be allowed if the fill is necessary and is the minimum absolutely required to develop the project in accordance with the Commission's public access requirements.	**Consistent**. The project does include fill; however, the fill associated with this project would be for a pier that would allow for public access.
Policy 10. Access to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available. Diverse and interesting public access experiences should be provided which would encourage users to remain in the designated access areas to avoid or minimize potential adverse effects on wildlife and their habitat.	**Consistent.** . The proposed project includes a portion of the Bay Trail Extension along Seawall Drive, improved public bus facilities, a new cycle track, and a public plaza and amenities, such as benches, seat walls, and interpretive signs to provide a diverse and interesting experience. The pier would also include benches, chairs and a fish cleaning station for those interested in fishing.
Policy 11. Roads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.	**Not applicable**. The project does not propose any new roadways; rather, the roadway improvements that are proposed would be limited to modifications to existing roadways: University Avenue and Seawall Drive. Along Seawall Drive, people would be entering a parking lot, which would result in slower speeds. In addition, the proposed project would implement a portion of the Bay Trail Extension next to Seawall Drive that would be separated from the roadway, and would install amenities such as green spaces, benches, and bike racks. Public transit use will be encouraged through the implementation of the project itself (ferry service), as well as improved bus stops that would allow for expansion of existing AC transit service.
Policy 12. Federal, state, regional, and local jurisdictions, special districts, and the Commission should cooperate to provide appropriately sited, designed and managed public access, especially to link the entire series of shoreline parks, regional trail systems (such as the San Francisco Bay Trail) and existing public access areas to the extent feasible without additional Bay filling and without significant adverse effects on Bay natural resources. State, regional, and local agencies that approve projects should assure that provisions for public access to and along the shoreline are included as conditions of approval and that the access is consistent with the Commission's requirements and guidelines.	**Consistent**. The City would develop bike/pedestrian facilities that would connect to the San Francisco Bay Trail and would enhance public access to the shoreline for recreational and transportation-related purposes.
Policy 13. The Public Access Design Guidelines should be used as a guide to siting and designing public access consistent with a proposed project. The Design Review Board should advise the Commission regarding the adequacy of the public access proposed. The Design Review Board should encourage diverse public access to meet the needs of a growing and diversifying population. Public access should be well distributed around the Bay and designed or improved to accommodate a broad range of activities for people of all races, cultures, ages, income levels, and abilities.	**Consistent**. Where new construction is proposed within BCDC's jurisdiction, the project would be developed in accordance with the Public Access Design Guidelines.
Policy 14. Public access should be integrated early in the planning and design of Bay habitat restoration projects to maximize public access opportunities and to avoid significant adverse effects on wildlife.	**Consistent.** Although the project is not specifically a Bay habitat restoration project, the City and Design Team considered the advisory principles in the Public Access Design Guidelines to avoid and minimize effects on wildlife and maximize public access opportunities in the early planning and design of the proposed project.
Policy 15. The Commission should continue to support and encourage expansion of scientific information on the effects of public access on wildlife and the potential of siting, design and management to avoid or minimize impacts. Furthermore, the Commission should, in cooperation with other appropriate agencies and organizations, determine the location of sensitive habitats in San Francisco Bay and use this information in the siting, design and management of public access along the shoreline of San Francisco Bay.	**Consistent.** Please refer to Impact BIO-1 in Section 3.3, *Biological Resources*, which indicates that operation of the proposed project, including the pier would not result in significant impacts on wildlife.
Appearance, Design, and Scenic Views	
Policy 1. To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.	**Consistent.** The proposed pier and amenities located along the Bay would be developed in accordance with the Public Access Design Guidelines. The proposed project would have the overall effect of increasing public access at the project site.
Policy 2. All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commission's concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.	**Consistent.** The Design Team for the proposed project includes landscape architects and urban designers knowledgeable of the BCDC's concerns.
Policy 3. In some areas, a small amount of fill may be allowed if the fill is necessary-and is the minimum absolutely required-to develop the project in accordance with the Commission's design recommendations.	**Consistent**. The project does include fill; however, the fill associated with this project would be for a pier that would allow for public access.

[23] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.

Policy	Consistency
Policy 4. Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline. However, some small parking areas for fishing access and Bay viewing may be allowed in exposed locations.	**Consistent**. The project does not propose new facilities in visually sensitive areas along the Bay where it would change views of the Bay. The parking being proposed for the project is at an existing parking lot (off Seawall Drive). At that parking lot, parking spaces have been maintained next to Seawall Drive to allow for Bay Viewing and a green space and Bay Trail Extension would be implemented next to the shore.
Policy 10. Towers, bridges, or other structures near or over the Bay should be designed as landmarks that suggest the location of the waterfront when it is not visible, especially in flat areas. But such landmarks should be low enough to assure the continued visual dominance of the hills around the Bay.	**Not applicable**. No structures of this type are proposed in areas under BCDC jurisdiction. The main structure proposed is a new pier in place of the existing pier, which will be low enough to assure the continued visual dominance of the hills around the bay.
Policy 12. In order to achieve a high level of design quality, the Commission's Design Review Board, composed of design and planning professionals, should review, evaluate, and advise the Commission on the proposed design of developments that affect the appearance of the Bay in accordance with the Bay Plan findings and policies on Public Access; on Appearance, Design, and Scenic Views; and the Public Access Design Guidelines. City, county, regional, state, and federal agencies should be guided in their evaluation of bayfront projects by the above guidelines.	**Consistent**. The City presented the project to the Design Review Board on May 12, 2025 and November 3, 2025. The City is planning on presenting to the Design Review Board a third time after publication of the Draft EIR.
Policy 14. Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay (shown in Bay Plan Maps, Natural Resources of the Bay.	**Consistent.** No structures, landscaping, or fencing are proposed that would block Bay views.
Policy 15. Vista points should be provided in the general locations indicated in the Plan maps. Access to vista points should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where parking or public transportation is available. In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.	**Consistent.** Pedestrian and bicycle facilities would be developed to connect proposed project with the Bay Trail, and the project site is adjacent to public transportation infrastructure such as AC Transit Bus Route 51B. The pier would provide signage to promote environmental and scenic education on the value and importance of the areas being viewed.
Fill for Bay-Oriented Commercial Recreation and Bay-Oriented Public Assembly on Privately-Owned or Publicly-Owned Property	
Policy 1. Filling for Bay-oriented commercial recreation and Bay-oriented public assembly on privately-owned or publicly-owned property should be approved only if the filling would provide, for new public access to the Bay and for improvement of shoreline appearance-in addition to what would be provided by the other Bay Plan policies-and the filling would be limited to replacement piers for Bay-oriented commercial recreation and Bay-oriented public assembly purposes, covering less of the Bay than was being uncovered and the proposed fill would fully comply with all of the additional criteria: a. The proposed replacement fill in its entirety, including all parts devoted to public recreation, open space, and public access to the Bay, would cover an area of the Bay smaller in size than the area being uncovered by removal of piers (pile-supported platforms), and those parts of the replacement fill devoted to uses other than public recreation, open space, and public access would cover an area of the Bay no larger than 50 percent of the area being uncovered (or such greater percentage as was previously devoted to such other uses that were destroyed involuntarily, in whole or in part, by fire, earthquake, or other such disaster, and will be devoted to substantially the same uses). b. The volume (mass) of structures to be built on the replacement pier (pile-supported platform) would be limited to the minimum necessary to achieve the purposes of the project. c. The replacement fill would be limited to piers (pile-supported platforms), rather than earth or other solid material, and, wherever possible, a substantial portion of the replacement project would be built on existing land. d. The pier (pile-supported platform-not a bridge) to be removed from the Bay must have: 1. been destroyed involuntarily, in whole or in part, by fire, earthquake, or other such disaster, or 2. become obsolete through physical deterioration, or 3. become obsolete because changes in shipping technology make it no longer needed or suitable for maritime use. 4. If the platform itself, or the structures on it, have become obsolete, but the pilings that support the platform are structurally sound, consideration must be given to using the existing pilings in any replacement project. e. The proposed project must be consistent with a comprehensive special area plan for the geographic vicinity of the project, a special area plan that the Commission has determined to be consistent with the policies of the San Francisco Bay Plan, except that this provision would not apply to any project involving replacement of only a pier that had been destroyed involuntarily. f. The proposed project would involve replacement fill and removal of material in the same geographic vicinity (as set forth in the applicable special area plan). g. The proposed replacement pier would not extend into the Bay any farther than (i) the piers (pile-supported platforms) to be removed from the Bay as part of the project or (ii) adjacent existing piers. h. The proposed project would limit the use of the replacement pier to: 1. public recreation (beaches, parks, etc.); and 2. Bay-oriented commercial recreation and Bay-oriented public assembly, defined as facilities specifically designed to attract large numbers of people to enjoy the Bay and its shoreline, such as restaurants, specialty shops, and hotels	**Consistent.** The filling associated with the proposed project would provide new public access to the Bay, given that the pier is currently closed to the public and this project would restore public access. The proposed pier is located in the same area as the current pier; however, the proposed breakwater would be perpendicular to the pier and would introduce fill in areas that have not been previously filled. However, the project would implement Mitigation Measure BIO-3 to compensate for this impact through the removal of additional fill from the existing pier. With implementation of this mitigation, the proposed fill associated with the project (which would all be devoted to public recreation and public access) would cover an area of the Bay equal in size to the area being uncovered by removal of piers (pile-supported platforms). The fill associated with the project is piers (pile-supported platforms) and its volume would be limited to the minimum necessary to achieve the purposes of the project (i.e., providing recreational access and a safe area to berth for ferry vessels). The piers to be removed have become obsolete through physical deterioration. The removal of fill, as required by mitigation, would be located in the same geographic vicinity of where the new fill being placed for the pier would be located. The proposed project would limit the use of the pier for public recreation and accessing ferry vessels for public transportation. The proposed pier would remain free to the public.

Policy	Consistency
i. The proposed project would be designed so as to take advantage of its nearness to the Bay, and would provide opportunities for enjoyment of the Bay in such ways as viewing, boating, fishing, etc., by keeping a substantial portion of the development, and a substantial portion of the new shoreline created on the replacement pier, open to the public free of charge (though an admission charge could apply to other portions of the project). j. The proposed project would not conflict with the adopted plans of any agency of local, regional, state, or federal government having jurisdiction over the area proposed for the replacement piers, and would be in an area where governmental agencies have not planned or budgeted for projects that would provide adequate access to the Bay. k. The proposed project would either provide recreational development in accordance with the Bay Plan maps or would provide additional recreation development that would not unnecessarily duplicate nearby facilities. l. The project would be planned to minimize the need for filling. (For example, all automobile parking should, wherever possible, be provided on nearby land or in multilevel structures rather than in extensive parking lots.) m. The proposed project would result in permanent public rights to use specific areas set aside for public access and recreation; these areas would be improved at least to finished grade and by installation of necessary basic utilities, at little or no cost to the public. n. The proposed project would, to the maximum extent feasible, establish a permanent shoreline in a particular area of the Bay, through dedication of lands and other permanent restrictions on all privately-owned and publicly-owned property bayward of the area approved for piers. o. The proposed project would provide, to the maximum extent feasible, for enhancement of fish and wildlife and other natural resources in the area of the development, and in no event would result in net damage to these values.	
Filling for Public Trust Uses on Publicly-Owned Property Granted in Trust to a Public Agency by the Legislature	
Policy 1. Filling should be approved if the filling is undertaken on land granted in trust by the Legislature to a public agency and the Commission finds that the filling and use proposed on the fill are consistent with the Public Trust Doctrine, the terms of the legislative trust grant, and with a Special Area Plan for the area that the Commission has found: a. Is necessary to the health, safety, and welfare of the public in the entire Bay Area; and b. Provides for major shoreline parks, regional public access facilities, removal of existing pile-supported fill, open water basins, increased safety of fills, mechanisms for implementation, enhanced public views of the Bay, and other benefits to the Bay, all of which exceed the benefits that could be accomplished through BCDC's permit authority for individual projects through the application of other Bay Plan policies.	**Consistent.** The proposed project would provide benefits that are necessary to the health, safety, and welfare of the San Francisco Bay community. Benefits include a new mode of transportation in the Bay, reduced greenhouse gas emissions and improved air quality, new public access to the Bay, and new opportunities for views of the Bay.
Mitigation	
Policy 1. Projects should be designed to avoid adverse environmental impacts to Bay natural resources such as to water surface area, volume, or circulation and to plants, fish, other aquatic organisms and wildlife habitat, subtidal areas, or tidal marshes or tidal flats. Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. Finally, measures to compensate for unavoidable adverse impacts to the natural resources of the Bay should be required. Mitigation is not a substitute for meeting the other requirements of the McAteer-Petris Act.	**Consistent**. The proposed project would avoid environmental impacts by locating it within an area that has already been disturbed by past fill, associated with the existing pier. Section 3.3, *Biological Resources* also includes mitigation measures to avoid impacts on biological resources, and where necessary provide compensatory mitigation.
Policy 2. Individual compensatory mitigation projects should be sited and designed within a Baywide ecological context, as close to the impact site as practicable, to: (1) compensate for the adverse impacts; (2) ensure a high likelihood of long-term ecological success; and (3) support the improved health of the Bay ecological system. Determination of the suitability of proposed mitigation locations should be guided in part by the information provided in the Baylands Ecosystem Habitat Goals report.	**Consistent**. Please refer to Mitigation Measure BIO-3 in Section 3.3, *Biological Resources*. Compensatory mitigation is being proposed as close to the impact site as practicable, through the removal of fill from the existing pier.
Policy 3. For major and appropriate minor projects that require compensatory mitigation, communities surrounding both the project and the compensatory mitigation site should be meaningfully involved in an equitable and culturally-relevant manner. In particular, vulnerable, disadvantaged, and/or underrepresented communities should be involved. This should include consultation with the community in the identification and prioritization of potential projects, and in the monitoring and programming of a mitigation site. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action.	**Consistent**. The City considered environmental justice in the development of the project and the potential impacts on environmental justice populations in a report on Environmental Justice.[24] Input from environmental justice communities informed the design of the project.
Policy 4. When determining the appropriate location and design of compensatory mitigation, the Commission should also consider potential effects on benefits provided to humans from Bay natural resources, including economic (e.g., flood protection, erosion control) and social (e.g., aesthetic benefits, recreational opportunities) benefits and whether the distribution of such benefits is equitable.	**Consistent**. The EIR includes compensatory mitigation for impacts from construction in the water. Mitigation Measure BIO-3 would require the removal of additional portions of the existing pier to address project impacts associated with fill and cover in the San Francisco Bay. The City would also obtain the appropriate permits from the USACE, RWQCB, and BCDC; these permits will include avoidance, minimization, and compensatory mitigation requirements to achieve no net loss of jurisdictional waters. Because implementation of Mitigation Measures BIO-3 would result in no net loss of jurisdictional waters, impacts would be less than significant with mitigation. The determination as to whether the distributions of the benefits from removing additional piles from the pier is equitable will need to be determined with BCDC. Please note that consistency or inconsistency with this policy would not constitute a significant environmental impact under CEQA.

[24] Berkeley, City of. 2025. Berkeley Water Transportation Pier Ferry Environmental Justice Existing Conditions and Constraints Technical Study. October 15. Prepared by Rincon Consultants.

Policy	Consistency
Policy 5. The amount and type of compensatory mitigation should be determined for each mitigation project based on a clearly identified rationale that includes an analysis of: the probability of success of the mitigation project; the expected time delay between the impact and the functioning of the mitigation site; and the type and quality of the ecological functions of the proposed mitigation site as compared to the impacted site.	**Consistent**. The compensatory mitigation identified for this project, and as required by Mitigation Measure Bio-3, was based on the impacts analyzed in Impact Bio-3 (see Section 3.3, *Biological Resources*).
Policy 6. To increase the potential for the ecological success and long-term sustainability of compensatory mitigation projects, resource restoration should be selected over creation where practicable, and transition zones and buffers should be included in mitigation projects where feasible and appropriate. In addition, mitigation site selection should consider site specific factors that will increase the likelihood of long-term ecological success, such as existing hydrological conditions, soil type, adjacent land uses, and connections to other habitats.	**Consistent**. Please refer to Mitigation Measure BIO-3 in Section 3.3, *Biological Resources*. Compensatory mitigation would be conducted in the form of removal of fill from the existing pier.
Policy 7. Mitigation should, to the extent practicable, be provided prior to, or concurrently with those parts of the project causing adverse impacts	**Consistent**. Please refer to Mitigation Measure BIO-3 in Section 3.3, *Biological Resources*. Compensatory mitigation would be conducted prior to, or concurrently with construction of the new pier.
Policy 8. When compensatory mitigation is necessary, a mitigation program should be reviewed and approved by or on behalf of the Commission as part of the project. Where appropriate, the mitigation program should describe the proposed design, construction and management of mitigation areas and include: a. Clear mitigation project goals; b. Clear and measurable performance standards for evaluating the success of the mitigation project, based on measures of both composition and function, and including the use of reference sites; c. A monitoring plan designed to identify potential problems early and determine appropriate remedial actions. Monitoring and reporting should be of adequate frequency and duration to measure specific performance standards and to assure long-term success of the stated goals of the mitigation project; d. A contingency plan to ensure the success of the mitigation project, or provide means to ensure alternative appropriate measures are implemented if the identified mitigation cannot be modified to achieve success. The Commission may require financial assurances, such as performance bonds or letters of credit, to cover the cost of mitigation actions based on the nature, extent and duration of the impact and/or the risk of the mitigation plan not achieving the mitigation goals; and e. Provisions for the long-term maintenance, management and protection of the mitigation site, such as a conservation easement, cash endowment, and transfer of title.	**Consistent**. Please refer to Mitigation Measure Bio-3 in Section 3.3, *Biological Resources.* While the Mitigation Measure establishes the requirements associated with providing compensatory mitigation, it also required that a Mitigation Plan be developed and shared with regulatory specialists, which would include BCDC.
Policy 9. Mitigation programs should be coordinated with all affected local, state, and federal agencies having jurisdiction or mitigation expertise to ensure, to the maximum practicable extent, a single mitigation program that satisfies the policies of all the affected agencies.	**Consistent.** On May 8, 2025, the City met with representatives of CDFW, San Francsico RWQCB, and USACE, as part of an interagency meeting. During that meeting, mitigation was discussed conceptually, and the City has incorporated comments from these agencies, as well as comments received during CEQA scoping as part of the mitigation program. The City will continue to coordinate the mitigation program with all applicable agencies.
Policy 10. If more than one mitigation program is proposed, the Commission should consider the cost of the alternatives in determining the appropriate program, as well as equitably consider the priorities and concerns of surrounding communities.	**Not Applicable.** More than one mitigation program is not being proposed.
Policy 11. To encourage cost effective compensatory mitigation programs, especially to provide mitigation for small fill projects, the Commission may extend credit for certain fill removal and allow mitigation banking provided that any credit or resource bank is recognized pursuant to written agreement executed by the Commission. Mitigation bank agreements should include: (a) financial mechanisms to ensure success of the bank; (b) assignment of responsibility for the ecological success of the bank; (c) scientifically defensible methods for determining the timing and amount of credit withdrawals; and (d) provisions for long-term maintenance, management and protection of the bank site. Mitigation banking should only be considered when no mitigation is practicable on or proximate to the project site.	**Not Applicable.** Mitigation banking is not being proposed.
Policy 12. The Commission may allow fee-based mitigation when other compensatory mitigation measures are infeasible. Fee-based mitigation agreements should include: (a) identification of a specific project that the fees will be used for within a specified time frame; (b) provisions for accurate tracking of the use of funds; (c) assignment of responsibility for the ecological success of the mitigation project; (d) determination of fair and adequate fee rates that account for all financial aspects of the mitigation project, including costs of securing sites, construction costs, maintenance costs, and administrative costs; (e) compensation for time lags between the adverse impact and the mitigation; and (f) provisions for long-term maintenance, management and protection of the mitigation site.	**Not Applicable.** Fee-based mitigation has not been identified as mitigation in this EIR.
Bay Plan Map No.4	
Policy 15. Berkeley Waterfront - Cesar Chavez Park - Preserve marina, beach, small boat launch, windsurfing access, fishing pier, interpretive center and multi-use trails. Possible ferry terminal. Allow if compatible with park and marina use; serve with bus public transit to reduce traffic and parking needs. Provide signage regarding fish consumption advisories for anglers.	**Consistent.** The Bay Plan specifically identifies a ferry terminal as a potential use at the project site. The proposed project would not affect the marina, beach, small boat launch, windsurfing access, or interpretive center as shown in Bay Plan Map No.4. The proposed project would provide a new pier that could be used for recreation (e.g., fishing, sight-seeing, etc.) as well as multi-use trails. The project is being developed to be compatible with park and marina uses. The proposed project includes bus facilities to continue providing AC transit service, and to expand service when necessary.

As shown in Table 3.9-1, construction and operation of the project would overall be consistent with the applicable policies of the BCDC San Francisco Bay Plan with incorporation of identified mitigation measures for biological resources and hydrology/water quality, specifically Mitigation Measures BIO-1(a) through BIO-1(f), BIO-2, BIO-3, and HYD-1 through HYD-3. These mitigation measures would require implementation of surveys and plans that would protect special-status species; compensatory mitigation for loss of jurisdictional waters; and plans and practices that would protect water quality (for more detailed information, please refer to Section 3.3, *Biological Resources* and Section 3.8, *Hydrology and Water Quality).* Therefore, the project would not conflict with the BCDC San Francisco Bay Plan, and related construction and operational impacts would be less than significant with mitigation.

ABAG/MTC Plan Bay Area 2050 Consistency

Given the project location within the Waterfront area, the ABAG/MTC Plan Bay Area 2050 would be applicable in terms of land use planning. The Plan also identifies specific projects, including the Berkeley Water Transportation Pier Ferry, that would facilitate progress toward Plan goals.[25] Project consistency with applicable Plan Bay Area 2050 policies is discussed in Table 3.9-2.

[25] Metropolitan Transportation Commission/Association of Bay Area Governments. 2025. Plan Bay Area 2050+ Final Blueprint: Transportation Project List Attachment F - Updated. Available: https://planbayarea.org/sites/default/files/meetings/attachments/6204/10a_25_0106_7_Attachment_F_Transportation_Project_List_CORRECTED.pdf (accessed June 2025).

Table 3.9-2 ABAG/MTC Plan Bay Area 2050 Consistency

Policy	Consistency
Transportation Strategies	
T3 Enable a Seamless Mobility Experience. Eliminate barriers to multi-operator transit trips by streamlining fare payment and trip planning while requiring schedule coordination at timed transfer hubs.	**Consistent.** The project would facilitate ferry service between Berkeley and San Francisco. The project would be located near AC transit bus stops, facilitating multi-operator transit trips. Fare payment would be streamlined through the use of Clipper Card, consistent with WETA operations. The schedule would be coordinated at timed transfer hubs.
T5 Implement per-mile tolling on congested freeways with transit alternatives. Apply a per-mile charge on auto travel on select congested freeway corridors where transit alternatives exist, with discounts for carpoolers, low-income residents, and off-peak travel; and reinvest excess revenues into transit alternatives in the corridor.	**Consistent.** The project would offer residents an alternative, low-cost, zero-emission transportation route that would reduce auto travel on congested freeway corridors.
T8 Build a complete streets network. Enhance streets to promote walking, biking and other micro-mobility through sidewalk improvements, car-free slow streets, and 10,000 miles of bike lanes or multi-use paths.	**Consistent**. The project includes improvements to a portion of University Avenue to provide a safer experience for pedestrians and bicyclists visiting the Waterfront through the implementation of sidewalks and a cycle track. These improvements will also allow for a seamless transit experience for visitors accessing the Waterfront via AC Transit. These improvements encourage visitors to reduce their use of single-occupancy vehicles to further reinforce the Project's goal of increasing sustainable transportation.
Environmental Strategies	
EN1 Adapt to sea level rise. Protect shoreline communities affected by sea level rise, prioritizing low-cost, high-benefit solutions and providing additional support to vulnerable populations.	**Consistent.** The proposed project would be designed to address projected sea level rise, consistent with the 2024 California Sea Level Rise Guidance.[26]
EN8 Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers.	**Consistent**. The project would build infrastructure to facilitate electric, zero-emission ferry service between Berkeley and San Francisco. In addition, the parking lot off Seawall Drive would include EV chargers for automobiles.

As shown in Table 3.9-2, the project would be consistent with the policies in the ABAG/MTC Plan Bay Area 2050. In addition, the proposed project is identified in Plan Bay Area as a project that would facilitate progress toward these goals. Therefore, the project would not conflict with Plan Bay Area 2050, and related construction and operational impacts would be less than significant.

Bay Area Clean Air Plan Consistency

The proposed project would facilitate electric ferry service between Berkeley and San Francisco that in turn would overall improve air quality in the region by expanding accessible public transit and reducing the amount of vehicle miles traveled from commuters in the region. Impacts related to consistency with this plan would be less than significant, as discussed further in Section 3.2, *Air Quality*, of this EIR (see Impact AQ-1).

[26] COWI. 2025. Berkeley Water Transportation Pier Ferry Project Coastal Study prepared for City of Berkeley. December.

BERKELEY CLIMATE ACTION PLAN

The proposed project would facilitate electric ferry service between Berkeley and San Francisco that in turn would reduce greenhouse gas emissions, and help implement the City's goal of reducing emissions by 80 percent below 2000 levels by 2050. Impacts related to consistency with this plan would be less than significant, as discussed further in Section 3.8, *Greenhouse Gas Emissions and Energy*, of this EIR (see Impact GHG-1).

BERKELEY GENERAL PLAN CONSISTENCY

Given the project location within Berkeley, the Berkeley General Plan would be applicable in terms of land use planning. Table 3.9-3 provides a discussion of the proposed project's consistency with pertinent policies from the Berkeley General Plan.

Table 3.9-3 Berkeley General Plan Consistency

General Plan Policy	Proposed Project Consistency
Land Use Element	
Maintain and Preserve the Character of Berkeley	
Policy LU-44 Berkeley Marina Plan. Prepare and adopt a plan for the maintenance and improvement of the Berkeley Marina.	**Consistent**. The Berkeley Marina Master Plan was adopted two years following the adoption of the Berkeley General Plan. As a Waterfront project, the proposed project would be required to comply with its goals and policies. The project's consistency with Marina Master Plan policies is analyzed in Table 3.9-4.
Maintain and Enhance Berkeley's Residential Areas	
Policy LU-9 Non-Residential Traffic. Minimize or eliminate traffic impacts on residential areas from institutional and commercial uses through careful land use decisions.	**Consistent**. The proposed project would increase the number of visitors at the Waterfront, potentially travelling through residential neighborhoods. However, the project would incorporate transportation demand management strategies to reduce potential impacts on surrounding traffic. The project is also located near existing public transit infrastructure such as AC Transit routes to reduce the number of single occupancy vehicles traveling to the project site. Furthermore, the project would provide residents with an alternative mode of transportation between Berkeley and San Francisco, ultimately reducing the traffic on already congested roadways.
Policy LU-11 Pedestrian- and Bicycle-Friendly Neighborhoods. Ensure that neighborhoods are pedestrian- and bicycle-friendly with well-maintained streets, street trees, sidewalks, and pathways.	**Consistent.** The project would incorporate new sidewalks and a new cycle track along University Avenue. The project would also implement a portion of the Bay Trail Extension along Seawall Drive, a public plaza, and new bicycle parking which would make the Waterfront more pedestrian- and bicycle-friendly.

General Plan Policy	Proposed Project Consistency
Open Space and Recreation Element	
Expansion of Open Space and Recreational Resources	
Policy OS-10 Access Improvements. Improve transit, bicycle, disabled, and pedestrian access to and between open space and recreation facilities, including regional facilities such as the Berkeley Marina, University of California open space, East Bay Regional Park District lands, the Eastshore State Park, and recreational facilities in other cities. 1. Develop and maintain a citywide pedestrian and bicycle network that links open space and recreation facilities with bicycle and walking paths along tree-lined streets, publicly owned pathways, creeks, and other greenways. 2. Increase shuttle and weekend transit service and weekend street closures to improve access to recreational and open space. 3. Continue to improve pedestrian and bicycle access to the waterfront and Berkeley Marina. 4. Attempt to establish a network of bicycle lanes and paths, physically separated from automobile traffic, to provide safe bicycle access especially for children to all schools, recreation sites, and city open spaces.	**Consistent.** The project would improve transit, bicycle, pedestrian, and ADA access at the Waterfront by implementing new ferry service and AC transit stops (transit); a new cycle track along University Avenue (bicycle); and new sidewalks, Bay Trail Extension, and public plaza that can be accessed by pedestrians (pedestrian). The proposed project would be ADA compliant. Given that the project site is surrounded by recreational resources, this would link existing open space and recreation facilities with new paths.
Transportation Element	
Public Transportation	
Policy T-2 Public Transportation Improvements. Encourage regional and local efforts to maintain and enhance public transportation services and seek additional regional funding for public and alternative transportation improvements.	**Consistent.** The project would improve regional connectivity through the new ferry service that would travel between Berkeley, San Francisco, and Larkspur.
Policy T-9 Ferry Service. Continue to evaluate the possibility of working with the City of Albany, the racetrack owners, regional transportation agencies, and AC Transit to establish a ferry terminal and regular San Francisco ferry service from Berkeley at the foot of Gilman Street or at the foot of University Avenue as an alternative to the Bay Bridge and as an essential recovery element following a significant seismic event. **Action A.** Ensure transit, shuttle, and bicycle connections are in place before beginning ferry service to minimize parking demand and traffic caused by people driving to the ferry service. **Action B.** Prioritize transit, pedestrian, and bicycle public expenditures over expenditures of public funds for ferry service, and ensure that new ferry service will not result in a reduction in public subsidies for existing transit services. **Action C.** Ensure that ferry services are less environmentally detrimental than the automobile. Advocate for low-emission, environmentally sensitive ferries.	**Consistent.** The project would build infrastructure to facilitate regular ferry service between Berkeley, San Francisco, and Larkspur. This would be supported by nearby AC Transit routes and bus stops, as well as existing and proposed bicycle and pedestrian paths to encourage visitors to reduce vehicle miles travelled. The ferry service that would be supported by the project would be electric and zero-emissions, ensuring that ferry services would be less environmentally detrimental than automobile travel. For additional information, please refer to Impact TRA-1 in Section 3.12, *Transportation.*

General Plan Policy	Proposed Project Consistency
Urban Design & Preservation	
Protection of Existing Resources	
Policy UD-2 Regulation of Significant Properties. Increase the extent of regulatory protection that applies to structures, sites, and areas that are historically or culturally significant. **Action C**. For any public or private project that may adversely affect an archaeological site, consult with the North Central Information Center of the California Historical Resources Information System, require site evaluation as may be indicated, and attempt to prevent or mitigate any adverse impacts.	**Consistent**. No historic sites have been identified on the project site. No known archaeological resources have been identified on the project site and sensitivity is low given the project site is comprised primarily of artificial fill. The City has consulted with the North Central Information Center of the California Historical Resources Information System and identified mitigation in the event that an unknown archaeological resource is discovered. Please refer to Section 3.4, *Cultural Resources.*
Policy UD-3 Regulation of Neighborhood Character. Use regulations to protect the character of neighborhoods and districts, and respect the particular conditions of each area.	**Consistent.** As discussed in Section 3.1, *Aesthetics*, the project site is located at one of Berkeley's most significant aesthetic resources. Infrastructure associated with the project, including the pier and the public plaza, would be developed to maintain the character of the area.
Policy UD-9 Trees. Wherever feasible and appropriate, tree replacement should emphasize maintaining historic planting patterns and native species and be consistent with the City of Berkeley 1990 Street Tree Policy or subsequent tree policies.	**Consistent.** As discussed in Section 3.3, *Biological Resources*, tree replacement would maintain historic planting patterns, would consist only of native vegetation, and would comply with all applicable tree policies.
New Construction and Alterations	
Policy UD-17 Design Elements. In relating a new design to the surrounding area, the factors to consider should include height, massing, materials, color, and detailing or ornament. **Policy UD-24 Area Character.** Regulate new construction and alterations to ensure that they are truly compatible with and, where feasible, reinforce the desirable design characteristics of the particular area they are in.	**Consistent.** As discussed in Section 3.1, *Aesthetics*, the project site is located at one of Berkeley's most significant aesthetic resources. Infrastructure associated with the project, including the pier and the public plaza, would be developed to maintain the character of the area.
Policy UD-26 Pedestrian Friendly Design. Architecture and site design should give special emphasis to enjoyment by, and convenience and safety for, pedestrians.	**Consistent.** The project's design would incorporate elements to emphasize the enjoyment by, and convenience and safety of, pedestrians. These elements include shade canopies on the pier, benches and chairs to sit and enjoy the space both on the pier and landside in the plaza, a new path for pedestrian and bicyclists, and improvements to University Avenue to facilitate a safer experience for pedestrians visiting the Waterfront.
Policy UD-31 Views. Construction should avoid blocking significant views, especially ones toward the Bay, the hills, and significant landmarks such as the Campanile, Golden Gate Bridge, and Alcatraz Island. Whenever possible, new buildings should enhance a vista or punctuate or clarify the urban pattern.	**Consistent.** As discussed in Section 3.1, *Aesthetics*, the project site is located at one of Berkeley's most significant aesthetic resources. As shown in the visual renderings and in the analysis, there would not be significant impacts related to blocking views. It should also be noted that the project would allow for more opportunities for people to view the Bay from the pier.

General Plan Policy	Proposed Project Consistency
Disaster Preparedness and Safety Element	
Mitigation	
Policy S-12 Utility and Transportation Systems. Improve the disaster-resistance of utility and transportation systems to increase public safety and to minimize damage and service disruption following a disaster.	**Consistent.** The project would enhance emergency response capabilities by providing emergency response via ferry during emergencies. Please refer to Section 2.8, *Emergency Operations Options* in Chapter 2, *Project Description* for more details.
Disaster-Resistant Land Use Planning	
Policy S-14 Land Use Regulation. Require appropriate mitigation in new development, in redevelopment/reuse, or in other applications. **Action A.** When appropriate utilize the environmental review process to ensure avoidance of hazards and/or adequate mitigation of hazard-induced risk. **Action E.** Develop criteria for disaster-resistant land use regulations to ensure that new construction reduces rather than increases risk of all kinds.	**Consistent.** Through the analysis conducted throughout this EIR, the City is utilizing the environmental review process to ensure that the project would avoid, and if necessary, mitigate potential hazards. Any potential impacts are identified and discussed throughout this EIR. In particular, the discussion of potential hazards are discussed in Section 3.7, *Hazards and Hazardous Materials*, of this EIR.
Environmental Management Element	
Habitat and the Urban Forest	
Policy EM-29 Street and Park Trees Maintain, enhance, and preserve street and park trees to improve the environment and provide habitat. Actions: **Action A.** Develop a street and park tree management plan to create a vibrant and well maintained tree population throughout the city. Wherever possible, tree replacement should emphasize native tree and plant species and maintain, to the extent feasible, street tree canopies over the street. **Action B.** Prioritize South and West Berkeley for additional street tree planting. **Action C.** Ensure that new development preserves existing trees, wherever feasible, and adds trees in the public right-of-way, where appropriate. **Action D.** Maintain standards to ensure parking lot tree canopy coverage. **Action E.** Maintain programs to ensure the timely removal and replacement of unhealthy or inappropriate street or park trees. **Action F.** Preserve and protect heritage trees, including native oaks and other significant trees on public and private property whenever feasible. **Action G.** Discourage the filling of planter strips with concrete.	**Consistent**. As described in Chapter 2. *Project Description*, 40 trees, mostly in poor health, would be removed, while 50-70 new trees would be planted including California Buckeye, Monterey Cypress, Primrose tree, Drooping Melaleuca, and Torrey Pine. Native trees and landscaping would be emphasized throughout the project area. As a potential option, the Project may install a solar panel system over the Seawall Drive Parking Lot. The parking lot solar panel system would be designed to support ferry vessel charging infrastructure. The system would consist of above-ground solar panels mounted on a canopy structure, providing shade coverage over designated parking areas. in this instance a tree canopy over the parking lot would be provided by the solar panel system.

As shown in Table 3.9-3, the project would be consistent with goals, policies, and actions within the Berkeley General Plan. Overall, the project would implement infrastructure that would enhance recreation and provide safe access to the Berkeley Waterfront area for transit users, bicyclists, and pedestrians. Therefore, the project would not conflict with the Berkeley General Plan, and related construction and operational impacts would be less than significant.

BERKELEY MUNICIPAL CODE CONSISTENCY

The project would comply with the Berkeley Zoning Ordinance, as the project uses would only be allowed with a Use Permit under existing zoning and land designations. The project would also comply with BMC Chapter 6.20, which governs the use of Marina facilities, as operation of the project would be confined to the end of the municipal pier and out into the open water, which would not interfere with the Marina. Consistency with Berkeley Municipal Code Chapter 6.52 and Chapter 12.20, which regulate the removal and replacement of trees, is analyzed in Section 3.3, *Biological Resources*, of this EIR (see Impact BIO-5). Therefore, the project would not conflict with these Sections of the Berkeley Municipal Code, and related operational impacts would be less than significant regarding consistency with these sections of the Code.

The City considered consistency with the noise thresholds established in Berkeley Municipal Code Section 13.40. As described in detail under Impact NOI-1, construction noise impacts would exceed the threshold established in the Code even after implementation of Mitigation Measure NOI-1 and impacts were found to be significant and unavoidable.

Therefore, impacts related to Berkeley Municipal Code consistency would be significant and unavoidable.

BERKELEY WATERFRONT MASTER PLAN CONSISTENCY

The Berkeley Waterfront Master Plan has a geographic scope that spans 170 acres of privately held lands bounded by the Interstate 80 freeway on the east, the Berkeley Marina on the west, and the Albany and Emeryville City limits on the north and south. The project site is not within the 170 acres of privately held land that define the Plan's geographic scope.

The Berkeley Waterfront Master Plan establishes a long-term vision for preserving and enhancing the Waterfront as a recreational and open space resource while maintaining environmental quality and public access. Although it is not within the geographic scope of the Plan, if these objectives were applied to the project, it would be consistent with these objectives because it would reopen the closed Berkeley Pier, provide new recreational opportunities, and improve shoreline access through a public plaza and Bay Trail extension. The proposed project incorporates bicycle and pedestrian improvements as well as water-dependent transportation, which aligns with policies to reduce automobile dependence and enhance multimodal access. The proposed project would meet or exceed applicable standards established by the Berkeley Waterfront Master Plan.

BERKELEY MARINA MASTER PLAN CONSISTENCY

The Berkeley Marina Master Plan provides a long-term vision for enhancing one of the City's most valued Waterfront assets. A key objective of the plan is to maintain and improve recreational, environmental, and boating facilities while preserving the Marina's open space and natural habitat. The plan includes policies and capital improvements that support sustainable development of low-impact and non-profit uses that will expand public access while complementing the Marina's unique character and ecological setting. Table 3.9-4, below, contains several of the Marina Master Plan policies that are relevant to the project.

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Table 3.9-4 Berkeley Marina Master Plan Consistency

Policy	Consistency
Principle 1. Protect, restore, enhance, and expand wildlife habitat, open space, natural areas and biological resources.	
Policy A. Protect, increase and enhance natural habitat and open space. *Maintain existing informal landscaping and provide new plantings*. The Marina's landscaping conveys an informal, almost park-like setting comprised of extensive plantings of trees, shrubs, and open lawn areas. Future landscaping should continue this informal theme emphasizing native plants wherever possible. As needed, new plantings should concentrate on replacing dead or diseased plants and "filling out" areas of sparse plantings. Where new areas of planting are proposed their potential for view blockage and unwelcome shading should be considered. Plantings should be compatible in scale and color with the surrounding environment. Additional plantings should be installed to screen boatyard activities and parking lots to enhance pedestrian pathways. *Encourage use of native plants to enhance wildlife habitat value*. The Marina provides habitat for a variety of water birds and raptorial birds, especially during the migratory period (mid-winter to mid-spring). While the Marina and surrounding waterfront is urbanized, opportunities exist to introduce habitat to support wildlife. To the maximum extent possible, native plants should be incorporated into proposed landscape plans to provide shelter and food sources for birds. Publications that contain a Recommended Native Plants List appropriate for the waterfront area should be consulted during the planning process. A program to identify, control, and remove non-native invasive plants that negatively impact natural habitat or have no habitat value should be developed and implemented. There are many areas that are bare of trees. Forestation is one of the best ways to beautify and to enhance wildlife habitat without restricting human activities. Where practical, trees should be close enough to each other to provide continuous canopy. Dead trees are important to wildlife and some fraction should be left standing when not considered a safety hazard. An extensive and continuing tree planting and maintenance program should be established. *Designate Shorebird Park as a Wildlife Reserve.* Extend the current boundaries of Shorebird Park and develop and implement a habitat enhancement plan for this wildlife habitat area. *Balance habitat protection and conservation with anticipated increase in demand for public access, recreation and commercial services.* Incorporate buffers—transitional zones of native vegetation that abut natural areas and wildlife habitat and help to minimize the impact of human activities—into the design of projects that can negatively impact these ecologically sensitive areas. Wherever possible, restrict the presence of lighting fixtures, power lines, utility poles and trees that can provide suitable conditions for avian predators (such as raptors and ravens) in or near areas where these predators can threaten the survival of ground nesting and other native birds. Allow for appropriate public access to areas of high biological value during sensitive times of the year (e.g. nesting or breeding seasons and migration periods). Provide signage explaining to the public the reasons for limitations.	**Consistent**. While the proposed project would require some tree removal, a majority of these trees are in poor condition and some of them are non-native. The proposed project includes the installation of native landscaping, including native trees. Proposed landscaping and new vegetation would be limited to native plants to enhance wildlife habitat value, reduce the demand for water associated with landscaping, and maintain consistency with existing vegetation. Except for one sign, the proposed project is not located within Shorebird Park and would not preclude the goal of designating Shorebird Park as a Wildlife Reserve. The connections to utilities associated with the project would be underground and the lighting fixtures would be downward facing. As discussed in Section 3.1, *Aesthetics,* lighting would be similar to existing lighting levels. The Project would also include educational signage to encourage visitors to learn about Bay ecology.
Policy B Improve the Marina's landscaping, signage, and pedestrian amenities. Install buffers, trees and benches to improve the Marina's park aspect. Design planting areas as biofiltration systems. Landscape areas can capture runoff and provide irrigation for trees and shrubs while removing pollutants before they drain into the Bay. Improve signage. Improve visibility of key signs at the Marina entrance, parking lot entrances, building locations, and other critical areas. To accommodate non-English speaking users, consider multilingual signage and printed informational materials in order to gain cooperation and foster a better understanding of the Marina and its policies, especially in matters relating to health, safety, and education. Consider new information kiosks at key public gathering points such as the Fishing Pier, the Marina Office plaza area, and end of Spinnaker Way. Additionally, interpretive signs that depict historical events and the ecology of the Marina are recommended. Suggested locations for the interpretive signs include the Fishing Pier and Shorebird Park. *Enhance the Existing Public Plaza.* The existing large concrete platform used in the past as a ferry landing presents an opportunity to create a lively public open space. Additional plantings, benches, and improved lighting facilities should be installed. Use of the plaza for public art exhibits, musical performances, etc. should be encouraged.	**Consistent.** The proposed project includes the installations of trees and benches that would improve the Marina's park aspect. The project also includes stormwater treatment planters to capture runoff and provide irrigation for trees and shrubs while removing pollutants before they drain into the Bay. The project includes wayfinding signage for visitors. In addition, interpretive will be provided throughout the project site. As required by Mitigation Measure TCR-2, which was developed in consultation with Native American Tribes, some of these interpretive signs would acknowledge Native American History (see Section 3.13, *Tribal Cultural Resources*). The project would include the installation of a new public plaza and would include plants, benches, and improved lighting facilities. Although specific programs have not been developed for the public plaza, public art exhibits, musical events, and other kind of public gatherings would be possible with implementation of the proposed project.
Principle 2. The health, safety, and security of Marina users and employees shall be a prime objective.	
Introduce traffic calming measures. Provide crosswalks on Spinnaker Way at the launch ramp exit and the A-E parking lot. Install signs indicating bicyclists also use the roadway to alert motorists to check their speed.	**Consistent**. Portions of the proposed Project's landside improvements are intended to improve circulation on the surrounding roads, facilitate transportation-oriented development, and encourage ferry users to use public transit to access the Waterfront. These improvements include relocating two bus stops along University Avenue to increase pedestrian safety at crosswalks and implementing a two-way bicycle lane with a buffer to facilitate safer conditions for cyclists. Although these improvements are not on Spinnaker Way, they support a similar goal to calm traffic for Marina visitors.

Policy	Consistency
Principle 3. Maintain and upgrade infrastructure.	
Upgrade the Ferry Pier to comply with seismic regulations. The bulkhead wall and pilings at the ferry pier have deteriorated substantially which has compromised its structural integrity. Moreover, as currently designed, the ferry pier does not meet seismic regulations. *Restore Fishing Pier.* Work with the Landmarks Preservation Commission to restore the pier's historical attributes. Consider providing interpretive signs that describe the history of the pier and Bay ecology. Benches should be provided on the pier at convenient distances to enhance public access. *Improve restroom facilities.* Restrooms should be sited and landscaped to minimize the visual impacts of the structures. Adequate signage should be installed to identify locations. All the Marina's restrooms should eventually be replaced to make them comply with ADA requirements. Like other buildings at the Marina, they are aging and have only received limited refurbishment. A facility should be located near the parking circle at the end of Spinnaker Way. *Improve parking lots.* Some of the parking lots are damaged or unpaved. Many lots have extensive ponding and suffer from erosion during the rainy season. These parking lots should be redesigned. The policies for the redesign of existing parking lots and the design of future lots at the Marina are based on the Center for Urban Forest Research guidelines.	**Consistent.** The proposed project involves the construction of a new pier and breakwater that would meet seismic regulations. The proposed project would include educational signage and benches to enhance public access and encourage recreation alongside accessing ferry services. The proposed project includes a new ADA-compliant restroom with efficient fixtures to improve public access and reduce water demand. The proposed project also included repaving and restriping of the parking lot at Seawall Drive.
Principle 4. Provide for appropriate recreational, commercial and nonprofit development that both encourages use and protects or enhances the natural resources of the Marina lands.	
Policy 4A. Promote the use of the Marina for boating and appropriate recreational activities and encourage appropriate commercial and non-profit uses that support marine and recreation functions. Encourage Inexpensive Food Vendors. The availability of inexpensive food at the Marina should be encouraged. Use of pushcarts and other mobile structures should be allowed, but should not be located in areas that will obstruct public access or views. Support Low Cost Water Activities and Education. The City should continue to support affordable programs such as Cal Sailing Club, Cal Adventures and the Nautilus Institute that provide a variety of low-cost water-related activities as well as educational programs for youth and the community.	**Consistent.** Overall, the project would create a more attractive area that would encourage and support marine and recreation functions. The proposed public plaza would facilitate the potential for inexpensive food at the Marina. Additionally, the ferry service would support low-cost water activities, and informative signs on the pier would support education for visitors.
Policy 4C. Preserve the areas devoted to marine operations and recreational activities and expand to new areas where feasible and without negatively impacting natural resources.	**Consistent.** The project would not be located within the Marina Basin and would, therefore, not conflict with marine operations. Implementation of the enhanced pier and ferry infrastructure would not impact waterfront recreation as recreation is prohibited at this location. The project would expand recreational activities by provided a new pier.
Principle 5. Enhance access and use of the Marina, especially for members of special user groups such as elderly, economically disadvantaged or physically challenged persons.	
Provide new and renovate pedestrian pathways and bicycle trails to increase public access at the Marina. As needed, pedestrian paths should be resurfaced and widened to provide access for all members of the community. New paths and upgraded paths will comply with ADA requirements. Bicycle paths and improvements consistent with the Berkeley Bicycle Plan should be installed along Seawall Drive, University Avenue, Marina Boulevard, and Spinnaker Way. Bike racks should be installed at key locations along the bicycle paths. *Improve shoreline access by upgrading existing pedestrian pathways along the shoreline and, where feasible, providing new pathways at the shoreline edge.* Provide a pedestrian path along the entire length of Seawall Drive. The pedestrian pathway should be grade separated from parked cars and the roadway. Plantings and berms should be used to screen cars from the pedestrian path. New signage and benches should be installed along the path. *Improve Marina Boulevard/University Avenue intersection.* As part of the Marina Boulevard realignment, the intersection should be redesigned to improve safety and clarity for pedestrian and bicyclists.	**Consistent.** The proposed project would provide the infrastructure identified in this policy. The proposed project includes the installation of a cycle track on University Avenue and a portion of the Bay Trail Extension off Seawall Drive. Where the Bay Trail Extension or recreation amenities are adjacent to Seawall Drive, the City would implement safety measures to create a barrier between vehicles and pedestrians (such as parking areas, boulders, bollards, fence, or guardrail). In addition, benches, chairs, and signage are planned to be installed on the Bay Trail Extension. The project is being designed to be ADA compliant.
Principle 6. Pursue a fiscally responsible and sustainable implementation program for the Marina.	
Maintain the Plan's prioritized capital improvement program for the construction of boating facilities, roadways, restroom facilities, and other infrastructure facilities necessary to continue Marina operations. Identify funding options to pay for the improvements.	**Consistent.** The proposed project is identified as one of Berkeley's capital projects.

As shown in Table 3.9-4, the project would be consistent with the key goals and strategies of the Berkeley Marina Master Plan. In addition, features associated with the proposed project (i.e., new pier, benches, signage, lighting, etc.) are identified as infrastructure that should be implemented as part of the Marina Master Plan. Therefore, the project would not conflict with the Marina Master Plan, and related construction and operational impacts would be less than significant.

BERKELEY LOCAL HAZARD MITIGATION PLAN CONSISTENCY

The Local Hazard Mitigation Plan identifies that operation of the proposed project will enhance emergency access at the Berkeley Waterfront, as the proposed project provides an alternative westward emergency evacuation route in the event of an emergency closure of the surrounding roads. Impacts related to consistency with this plan would be less than significant, as discussed further in Section 3.7, *Hazards and Hazardous Materials*, of this EIR (see Impact HAZ-5).

BERKELEY MEASURE L CONSISTENCY

As discussed above, Measure L provides that "no public parks" or "public open space... owned or controlled or leased by the City or agency thereof, shall be used for any other purpose than public parks and open space" without prior authorization from the voters (BMC Section 6.42.010). The project is consistent with Measure L. None of the proposed project would take place within a public park, with the exception of the installation of a new wayfinding sign in Shorebird Park. The installation of this sign would not change the purpose or alter the use of Shorebird Park but rather is consistent with its park use.

The other landside improvements would not take place on public parks or open space as defined by Measure L. For example, the parking lot improvements would consist of renovations of an existing parking lot; the cycle track improvements and bus facilities would be built in the public right of way; the public plaza would replace an existing paved plaza area; and the Bay Trail Extension would be built on an area currently occupied by parking stalls and a narrow dilapidated pathway. Even if the improvements were located on public parks or open space as defined by Measure L, they would be Measure L compliant because they do not change the use or purpose of these areas but rather maintain their recreational nature and in fact enhance recreational opportunities there.

The waterside improvements include building a new pier in the same location as the existing, deteriorated pier. The pier would not be built in a public park or in public open space as defined by Measure L (see BMC 6.42.030). Even if the areas upon which the pier is built were subject to Measure L, these improvements are Measure L compliant. This is because the new pier would not change the purpose or alter the use of these areas because it is replacing the existing pier and because it would maintain the recreational use of the area. In fact, the new pier would expand recreational use because the current pier is inaccessible to the public.

In addition, the waterside improvements include installation of a ferry facility, ferry charging infrastructure, and a breakwater in open water. None of these improvements would take place in public parks or public open space as defined by Measure L. Even if these areas were subject to Measure L, these waterside improvements do not change the use or purpose of these areas because they will facilitate recreation by bringing recreators to the Waterfront and by providing recreational opportunities. Therefore, the project would not conflict with Measure L, and related construction and operational impacts would be less than significant.

CITY OF BERKELEY CODE RE-ADOPTION ORDINANCE (ORDINANCE NO. 7,906-N.S., 2024) CONSISTENCY

As described in Section 3.9.2, *Regulatory Framework*, Ordinance No. 7,906-N.S., 2024, updates local building codes to incorporate amendments to the 2022 California Building Code, such as provisions for seismic safety, fire protection, energy efficiency, and green building amendments including requirements for the undergrounding of utilities in designated fire zones, motion-activated gas shut-off valves, electric vehicle infrastructure, and emergency utility disconnection authority. The proposed project has been designed to comply with applicable seismic and safety standards, green building requirements, and would provide electric vehicle charging stations. Utility connections would be underground, and emergency utility disconnection authority would be granted to the Building Official under hazardous conditions. Therefore, the project would not conflict with Ordinance No. 7,096-N.S., 2024, and related construction and operational impacts would be less than significant.

OVERALL LAND USE PLAN/POLICIES CONSISTENCY

Overall, the proposed project would be generally consistent with the goals and policies identified in applicable plans. Ferry service that reduces air quality and greenhouse gas emissions (due to being electric projected to be used by riders in some instances in place of automobiles on congested highways) with upgraded recreational amenities and Bay Trail extension, including infrastructure that improves pedestrian and bicycle safety, are features of the proposed project that are identified either explicitly or generally as policies and measures in applicable plans. The proposed project would, however, generate noise that even after mitigated would exceed thresholds established in the BMC. Therefore, the impact related to consistency with a regulation adopted for the purpose of avoiding or mitigating an environmental effect would be significant and unavoidable due to noise impacts.

Mitigation Measures

MITIGATION MEASURE AES-1: REDUCE NIGHT LIGHTING DURING CONSTRUCTION OF FACILITIES

See Section 3.1, *Aesthetics,* for mitigation measure details.

MITIGATION MEASURE AQ-1: IMPLEMENT CONSTRUCTION EMISSIONS REDUCTION MEASURES DURING CONSTRUCTION

See Section 3.2, *Air Quality,* for mitigation measure details.

MITIGATION MEASURE BIO-1(A): IMPLEMENT WORKER ENVIRONMENTAL AWARENESS PROGRAM PRIOR TO AND DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(B): CONDUCT NORTHWESTERN POND TURTLE SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(C): CONDUCT NESTING BIRD SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(D): CONDUCT PILE DRIVING IMPACT AVOIDANCE TO FISH AND MARINE MAMMALS PRIOR TO AND DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(E): PREPARE MARINE MAMMAL MONITORING PLAN PRIOR TO CONSTRUCTION AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-2: IMPLEMENT INVASIVE SPECIES PREVENTION DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-3: PROVIDE COMPENSATORY MITIGATION FOR LOSS OF JURISDICTIONAL WATERS PRIOR TO OPERATION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.

MITIGATION MEASURE NOI-1: PREPARE AND IMPLEMENT CONSTRUCTION NOISE MANAGEMENT PLAN PRIOR TO AND DURING CONSTRUCTION

See Section 3.10, *Noise,* for mitigation measure details.

Significance After Mitigation

Significant and Unavoidable (due to temporary construction-related noise; see Impact NOI-1)

3.9.5 Cumulative Impacts

The geographic scope of the cumulative land use/planning analysis is the City of Berkeley. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future projects (in addition to the proposed project) listed in Table 3-1 (refer to Chapter 3, Environmental Impact Analysis).

Community Division

Since the project results in no impact on the physical division of an established community, the project could not result in a cumulatively considerable contribution to a cumulative impact.

Land Use Plan, Policy, or Regulation Consistency

Land use decisions for both the proposed project and for the other cumulative plans and projects listed in Table 3-1 are made at a city level. Development within the City of Berkeley is governed by the Berkeley General Plan and Berkeley Municipal Code, which require logical and orderly land use development and require discretionary review to approve projects that do not result in land use environmental impacts due to inconsistency with the General Plan and other regulations. Cumulative development projects in Berkeley would be required to demonstrate consistency with the proposed General Plan and other applicable codes, ordinances, and policies. This would require

that cumulative projects comply with applicable planning regulations. Nonetheless, as discussed in Section 3.10, *Noise*, cumulative noise impacts may exceed thresholds established in the Berkeley Municipal Code. As such, the proposed project would have a significant and unavoidable contribution to a cumulative impact related to consistency with a regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the cumulative impact would be significant and unavoidable.

Overall Level of Cumulative Significance

Significant and Unavoidable (due to temporary construction-related and operational mobile noise).

3.10 Noise

3.10.1 Introduction

This section describes the existing conditions related to noise and vibration within the project site and adjacent areas as well as the regulatory framework. This section also evaluates the possible impacts related to noise and vibration that could result from construction and operation of the proposed project. Information included in this section is based on the Berkeley General Plan, as well as transportation volume data provided by Kittelson & Associates, Inc., which is included as Appendix E to this EIR.

3.10.2 Environmental Setting

Characteristics of Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment.[1] Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of roadway vehicle volume, would increase the noise level by 3 dBA; reducing the energy in half would result in a 3 dBA decrease.[2] Table 3.10-1 shows some representative noise sources and their corresponding noise levels in dBA.

[1] California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. (CT-HWANP-RT-13-069.25.2) September. http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf (accessed June 2025).
[2] Crocker, Malcom J, Editor. 2007. Handbook of Noise and Vibration Control Book, ISBN: 978-0-471-39599-7, Wiley-VCH, October.

Table 3.10-1 Typical A-Weighted Noise Levels

Indoor Noise Source	Noise Level (dBA)	Outdoor Noise Sources
(Threshold of Hearing in Laboratory)	0	—
Library	30	Quiet Rural Nighttime
Refrigerator Humming	40	Quiet Suburban Nighttime
Quiet Office	50	Quiet Urban Daytime
Normal Conversation at 3 feet	60	Normal Conversation at 3 feet
Vacuum Cleaner at 10 feet	70	Gas Lawn Mower at 100 feet
Hair Dryer at 1 foot	80	Freight Train at 50 feet
Food Blender at 3 feet	90	Heavy-duty Truck at 50 feet
Inside Subway Train (New York)	100	Jet Takeoff at 2,000 feet
Smoke Detector Alarm at 3 feet	110	Unmuffled Motorcycle
Rock Band near stage	120	Chainsaw at 3 feet
—	130	Military Jet Takeoff at 50 feet
—	140	(Threshold of Pain)

Source: Data compiled by Rincon in 2022.

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud.

Sound changes in both level and frequency spectrum as it travels from the source to the receptor. The most obvious change is the decrease in level as the distance from the source increases. The manner in which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance. The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees). Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can substantially alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receptor.[3] Structures can substantially reduce exposure to noise as well. The Federal Highway Administration (FHWA) guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

[3] FHWA. 2011. *Highway Traffic Noise: Analysis and Abatement Guidance.* December 2011. https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf (accessed June 2025).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors to consider when evaluating project noise impacts. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}), which considers both duration and sound power level. The L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the sampling period.

Noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours; it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA or less. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of roadway noise during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations.[4]
Table 3.10-2 briefly defines measurement descriptors and other sound terminology used in this section.

[4] FTA. 2018. Transit Noise and Vibration Impact Assessment Manual. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed July 2025).

Table 3.10-2 Sound Terminology

Term	Definition
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, can be detected by a receiving mechanism such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which represents the squared ratio of sound-pressure amplitude to a reference sound pressure. The reference pressure is 20 micropascals, representing the threshold of human hearing (0 dB).
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level that approximates the frequency response of the human ear.
Equivalent Noise Level (L_{eq})	The average sound energy occurring over a specified time period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Maximum and Minimum Noise Levels (L_{max} and L_{min})	The maximum or minimum instantaneous sound level measured during a measurement period.
Day-Night Level (DNL or L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m. (nighttime).
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.

Source: Data compiled by Rincon in 2025.

Characteristics of Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body is from a low of less than 1 Hz up to a high of about 200 Hz.[2] Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source.[4]

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the

source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances.[5] When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV). The PPV is normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration and other construction activity because it is related to the stresses that are experienced by buildings.[5]

Noise-Sensitive Land Uses

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Environmental Management Element of the Berkeley General Plan identifies residences, child-care centers, hospitals, nursing homes, and outdoor activity areas (such as those associated with residences, schools, or parks) as noise-sensitive areas within the City.[6] Other noise-sensitive land uses typically include libraries, schools, churches, and transient lodging (hotels and motels). Sensitive land uses generally should not be subjected to noise levels that would be considered intrusive in character or that would adversely affect their intended uses.

Project Site and Adjacent Areas

Noise-sensitive receptors are located near the project footprint. The following distances from a sensitive receptor to the project footprint were made to the nearest project element, including those project elements on land and in water. Noise-sensitive land uses include the César E. Chávez Park located approximately 2,100 feet north of the project footprint, the outdoor use area/scenic view situated north of the strait connecting the Marina and San Francisco Bay located approximately 1,075 feet north of the project footprint, Horseshoe Park located approximately 130 feet north of the project footprint, the Berkeley Marina Hotel located approximately 1,285 feet north of the project footprint, live-aboard boats within the Marina located as close as approximately 140 feet north of the project footprint, 13 houseboats within the Marina located at the H and I docks as close as approximately 260 feet northwest of the project site,[7] Shorebird Park (including the Nature Center Playground) located adjacent to and east of the southern extension of the project footprint, and the Adventure Playground located approximately 85 feet south of the project footprint along University Avenue.

Existing Noise Conditions and Sources

Project Site and Adjacent Areas

To characterize the existing noise environment at the project site and adjacent areas, seven short-term (15-minute) noise measurements were taken on September 24, 2024, and October 24, 2024, and three long-term (48-hour) noise measurements were taken between September 24 and 26,

[5] California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). April. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf (accessed May 2025).
[6] Berkeley, City of. 2002. Available: Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan (accessed June 2025).
[7] The exact location and number of live-aboards is not known, as they are generally designed for recreational use and are therefore most often used for short-term stays rather than long-term living, whereas houseboats are designed for long-term residency.

2024. Measurements were made using a Soft dB Piccolo-II, Type 2 integrating sound level meter equipped with a windscreen. The sound level meters were calibrated prior to and after measurements. All measurements were made at least five feet above the ground and away from reflective surfaces. Approximate noise measurement locations are shown in Figure 3.10-1.

The most prominent sources of noise during the noise measurements were on-road passenger vehicle movement, wind (particularly at measurement locations ST1, ST2, ST3, ST4, and ST7), birds, and people on the walking trails and using parks (i.e., Shorebird Park, César E. Chávez Park). Table 3.10-3 and Table 3.10-4 summarize the results of the short-term and long-term noise measurements, respectively.

Table 3.10-3 Short-Term Noise Measurement Results

Measurement Location	Description of Location	Date	Sample Times	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
ST1	Southwestern portion of César E. Chávez Park, near Spinnaker Way roundabout	Tuesday, September 24, 2024	10:23–10:38 a.m.	53.1	46.2	63.6
ST2	North of the strait connecting the Marina Basin and the San Francisco Bay	Thursday, October 24, 2024	11:38–11:53 a.m.	48.0	42.7	63.4
ST3	Northernmost portion of Seawall Drive, just south of the Berkeley Yacht Club	Tuesday, September 24, 2024	11:46 a.m.–12:01 p.m.	59.0	56.0	66.4
ST4	Along the western shoreline, near Skates on the Bay	Thursday, October 24, 2024	12:08–12:23 p.m.	51.6	47.1	62.9
ST5	Just west of the Shorebird Park Playground	Tuesday, September 24, 2024	12:37–12:52 p.m.	55.9	45.0	77.3
ST6	At the outdoor café seating north of Hana Japan, near the Marina office	Tuesday, September 24, 2024	1:13–1:28 p.m.	62.6	49.1	85.2[1]
ST7	Southernmost portion of Seawall Drive, near HS Lordships building	Thursday, October 24, 2024	12:31–12:36 p.m.	52.7	48.3	73.4

dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level; L_{min} = minimum sound level; L_{max} = maximum sound level; ST = "Short-Term" noise measurement location

[1] The maximum noise level at this location was due to noise from the nearby restaurant, patio area, and people passing by.

Approximate noise measurement locations are shown in Figure 3.10-1; detailed short-term noise measurement data included in Appendix E.

Source: Appendix E.

Table 3.10-4 Long-Term Noise Measurement Results

Measurement Location	Description of Location	Dates	Measured Noise Level	
			L_{dn} (dBA)	CNEL (dBA)
LT1	Southeastern portion of the parking lot to the west of the ShareNGetty Community Garden near the DoubleTree by Hilton Hotel Berkeley Marina	September 24–25, 2024	56.0	56.1
		September 25–26, 2024	54.4	54.5
LT2	Southwestern corner of the marina	September 24–25, 2024	56.9	57.1
		September 25–26, 2024	51.3	51.6
LT3	West of the Shorebird Park Nature Center, approximately 200 feet south of University Avenue	September 24–25, 2024	52.1	52.4
		September 25–26, 2024	49.2	49.5

Source: Appendix E
dBA = A-weighted decibels; L_{dn} = day-night average sound level; CNEL = Community Noise Equivalent Level; LT = "Long-Term" noise measurement location
Approximate noise measurement locations are shown in Figure 3.10-1; full hourly and graphical long-term noise measurement data included in Appendix E.

The noise measurement results shown in Table 3.10-3 and Table 3.10-4 indicate that existing noise levels are generally within the City's exterior noise limits shown in Table 3.10-5. Noise measurement results show that noise levels at commercial uses (ST3, ST4, ST6, and ST7) were within the City's daytime limit of 65 dBA. Noise measurement results at the live-aboard boats, hotel, and open space areas, such as Shorebird Park and César E. Chávez Park (ST1, ST2, ST5, LT1, LT2, and LT3) were within the City's daytime limits of 55 and 60 dBA for low-density, multi-family residential uses. However, it should be noted that nowhere on the project site is zoned for residential use.

Since there are no airports in Berkeley, airport activity does not exist at or adjacent to the project site. In addition, Bay Area Rapid Transit (BART) operates too far of a distance (approximately 2 miles from the project site) to be a source of noise at or adjacent to the project site.

Figure 3.10-1 Existing Noise Measurement Locations



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23-15427 EPS TechStudy
Fig X Noise Measurement Locations

3.10.3 Regulatory Framework

Federal Regulations

Occupational Health and Safety Administration

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA). Noise limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility's Health and Safety Plan, as required under OSHA, and is not addressed further in this analysis.

State Regulations

California General Plan Guidelines

State law requires general plans to include a Noise Element under Government Code Section 65302(f). The California General Plan Guidelines, published by the Governor's Office of Planning and Research, indicate acceptable, specific land use types in areas with specific noise exposure. The guidelines also offer adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. These guidelines are advisory, and local jurisdictions have the authority to set specific noise standards based on local conditions.

Regional and Local Regulations

Berkeley General Plan[8]

The Berkeley General Plan Environmental Management Element "…establishes policies for the management and conservation of the city's natural resources and the protection of the community from hazards, pollution, and excessive noise"[6]. The following policies and actions from the Environmental Management Element are applicable to the project:

Policy EM-43 Noise Reduction

Reduce significant noise levels and minimize new sources of noise. Actions:

A. Increase enforcement of the Noise Ordinance to reduce noise impacts.

Policy EM-44 Noise Prevention and Elimination

Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant future degradation of the acoustic environment. Actions:

A. Incorporate noise considerations into land use planning decisions.
B. Ensure the effective enforcement of City, State, and Federal noise levels by appropriate City departments.

[8] Berkeley, City of. 2002. Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/sites/default/files/documents/11_Environmental%20Management%20Element-FINAL.pdf (accessed February 2026).

C. Coordinate with the California Occupational Safety and Health Administration (Cal-OSHA) to provide information on and enforcement of occupational noise requirements within the City of Berkeley.

Policy EM-46 Noise Mitigation

Require operational limitations and all feasible noise buffering for new uses that generate significant noise impacts near residential, institutional, and recreational uses. Actions:

B. Mitigate significant noise impacts on parks and public open space, whenever feasible.

Policy EM-47 Land Use Compatibility

Ensure that noise-sensitive uses, including, but not limited to, residences, child-care centers, hospitals, and nursing homes, are protected from detrimental noise levels. Action:

A. Noise-sensitive development proposals should be reviewed with respect to the Land Use Compatibility Guidelines below.

    If the noise level is within the "normally acceptable" level, noise exposure would be acceptable for the intended land use. Development may occur without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.

    If the noise level is within the "conditionally acceptable" level, noise exposure would be conditionally acceptable; a specified land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools, or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

    If the noise level is within the "normally unacceptable" level, analysis and mitigation are required. Development should generally not be undertaken unless adequate noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce the exposure of people to unacceptable noise levels.

    If the noise level is within the "clearly unacceptable" level, new construction or development should not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce exposure of people to unacceptable noise levels.

Berkeley Municipal Code

Section 13.40.050 of the City of Berkeley Municipal Code (BMC) establishes exterior noise standards for various zoning districts within the City based on time of day. These exterior noise limits are shown in Table 3.10-5 and are not to be exceeded at the property line of a receiving land use. Please refer to Section *Specific Thresholds of Significance subsection*, for an explanation of the thresholds used in the tables below.

In addition, Section 13.40.100 of the Berkeley Municipal Code requires a permit for the use of sound-amplifying equipment on public property. This section establishes conditions to minimize noise impacts on surrounding land uses, including limiting amplified sound to no more than 15 dBA above the ambient noise level measured at any point 50 feet from the sound amplifying equipment,

requiring speakers to be oriented away from residential areas and other sensitive receptors, and imposing operational restrictions such as allowable hours and compliance with permit conditions.

Table 3.10-5 Berkeley Municipal Code Exterior Noise Limits

Zoning District	Time Period	Noise Level (dBA)
R-1, R-2, R-1A, R-2A, and ESR	7:00 a.m. – 10:00 p.m.	55
	10:00 p.m. – 7:00 a.m.	45
R-3 and above	7:00 a.m. – 10:00 p.m.	60
	10:00 p.m. – 7:00 a.m.	55
Commercial	7:00 a.m. – 10:00 p.m.	65
	10:00 p.m. – 7:00 a.m.	60
Industry	Anytime	70

Source: Berkeley Municipal Code Section 13.40.050, Table 13.40-1.

Section 13.40.050(A)(2) states that no person shall operate or cause to be operated any source of sound ay any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the sound level when measured on any other property to exceed:

a. The noise standard for that land use as specified in Table 3.10-5 for a cumulative period of more than 30 minutes in any hour; or
b. The noise standard for that land use as specified in Table 3.10-5 plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
c. The noise standard for that land use as specified in Table 3.10-5 plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or
d. The noise standard for that land use as specified in Table 3.10-5 plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
e. The noise standard for that land use as specified in Table 3.10-5 plus 20 dBA for any period of time.

Furthermore, Section 13.40.050(A)(3) states that when the ambient noise level exceeds the noise levels presented in Table 3.10-5, the sound level when measured on any other property shall not exceed:

a. The ambient noise level for a cumulative period of more than 30 minutes in any hour; or
b. The ambient noise level plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
c. The ambient noise level plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or
d. The ambient noise level plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
e. The ambient noise level plus 20 dBA for any period of time.

In addition, Section 13.40.070(B)(7)(a) contains provisions for noise generated during construction, prohibiting the operating of "…or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work before 7:00 a.m. on a weekday (or

before 9:00 a.m. on a weekend or holiday) or after 7:00 p.m. on a weekday (or after 8:00 p.m. on a weekend or holiday) such that the sound therefrom across a residential or commercial real property line violates Section 13.40.050." Section 13.040.070(B)(7)(b) states "[w]here technically and economically feasible, construction activities shall be conducted in such a manner that the maximum sound levels at affected properties will not exceed those listed in [Table 3.10-6] and [Table 3.10-7]." Table 3.10-6 presents maximum sound levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment, while Table 3.10-7 presents maximum sound levels for repetitively scheduled and relatively long-term operation (period of 10 days or more) of stationary equipment.

Table 3.10-6 Noise Limits for Mobile Construction Equipment

	R-1, R-2 Residential	R-3 and Above Multi-Family Residential	Commercial/ Industrial
Weekdays 7:00 a.m. to 7:00 p.m.	75 dBA	80 dBA	85 dBA
Weekends 9:00 a.m. to 8:00 p.m. and legal holidays	60 dBA	65 dBA	70 dBA

[1] Noise levels shown in this table represent maximum sound levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment.

Source: BMC Section 13.40.070, Table 13.40-3.

Table 3.10-7 Noise Limits for Stationary Construction Equipment

	R-1, R-2 Residential	R-3 and Above Multi-Family Residential	Commercial/ Industrial
Weekdays 7:00 a.m. to 7:00 p.m.	60 dBA	65 dBA	70 dBA
Weekends 9:00 a.m. to 8:00 p.m. and legal holidays	50 dBA	55 dBA	60 dBA

[1] Noise levels shown in this table represent maximum sound levels for repetitively scheduled and relatively long-term operation (period of 10 days or more) of stationary equipment.

Source: BMC Section 13.40.070, Table 13.40-4.

In addition, Section 13.40.100 of the Berkeley Municipal Code requires a permit for the use of sound-amplifying equipment on public property. This section establishes conditions to minimize noise impacts on surrounding land uses, including limiting amplified sound to no more than 15 dBA above the ambient noise level measured at any point 50 feet from the sound amplifying equipment, requiring speakers to be oriented away from residential areas and other sensitive receptors, and imposing operational restrictions such as allowable hours and compliance with permit conditions.

3.10.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 *CEQA Guidelines* Appendix G significance criteria questions related to Noise. Would the proposed project:

a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Generate excessive groundborne vibration or groundborne noise levels?

c) If located within the vicinity of a private airstrip or 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, expose people residing or working in the project area to excessive noise levels?

Approach to Analysis

Please refer to Section 3.3, *Biological Resources* for a discussion of hydroacoustic effects on marine mammals and fish.

Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM).[9] RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at sensitive receptors[10] near the project footprint based on the equipment list expected to be used for the proposed project. RCNM provides reference noise levels for standard construction equipment and applies noise attenuation at a rate of 6 dBA per doubling of distance from the equipment.

Construction activity would result in temporary noise in the project area, exposing surrounding sensitive receptors to increased noise levels. Construction of the project would involve both water and land work. Construction phases involved with water work would include demolition, dredging, pile installation, deck, float, and gangway construction, and amenities construction. Construction phases involved with land work would include demolition, site preparation, grading, building construction, paving, landscaping, and amenities construction. Construction equipment would continually move around the project site over the course of a typical workday. Due to the complex and mobile nature of construction activity within a project site, the FTA *Transit Noise and Vibration Impact Assessment Manual* document recommends evaluating construction noise impacts from the center of the construction site, stating that the distance variable in its recommended construction noise calculation "assumes that all equipment operates at the center of the project."[4] Therefore, construction noise impacts were evaluated from the approximate center of each work area where construction activities are assumed to primarily occur during each phase. The three loudest pieces of equipment were conservatively assumed to be operating at the same location at any given time. Noise levels for various equipment types expected to be used during construction of the project are based on reference noise levels from RCNM, shown in Table 3.10-8.

[9] Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook00.cfm (accessed July 2025).
[10] See *Noise Sensitive Land Uses* subsection in Section 3.10.2, *Environmental Setting*, that identifies the sensitive receptors near the project site.

Table 3.10-8 Typical Noise Levels Generated by Various Construction Equipment

Equipment	Estimated Construction Noise Levels (dBA L_{eq})	
Distance from Equipment (feet)	**50**	**100**
Landside		
Air Compressor	76	70
Backhoe	76	70
Concrete Saw	83	77
Crane	77	71
Dozer	81	75
Excavator	81	75
Generator	79	73
Grader	81	75
Loader	76	70
Paver	82	76
Pickup Truck	51	45
Roller	78	72
Waterside		
Air Compressor	76	70
Concrete Mixer Truck	81	75
Concrete Saw	83	77
Crane	77	71
Excavator	81	75
Man Lift	78	72
Pumps	74	68
Pile-driver (Impact)	88	82
Pile-driver (Vibratory)	88	82
Roller	78	72
Welder/Torch	69	63

Source: Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook00.cfm (accessed July 2025).

Stationary Operational Noise

The primary stationary noise (i.e., on-site operational noise) sources associated with the proposed project would include operation of the new public plaza, recreational use of the extended pier and new breakwater, and mechanical equipment associated with the Universal Charging Float. The public plaza may be used for special events such as small concerts, fishing derbies, and pop-up-style events. It is anticipated that special events would be limited to approximately five days per year between the hours of 10:00 a.m. and 8:00 p.m. Amplified sound would only occur during special events. The primary sources of noise-generating mechanical equipment associated with the Universal Charging Floats are expected to consist of cooling equipment; however, the exact equipment specifications are not known at the time of this analysis. Therefore, this analysis assumes the use of a Carrier 30WG packaged chiller and heat pump for marine applications (or similar

equipment).[11] Based on technical specifications for this product, this unit has a sound power level of up to 78 dBA (depending on specific configurations and sizes), which equates to a sound pressure level of 67 dBA at three feet away (see Appendix E for manufacturer's specifications). To determine compliance with the City's noise limits, this noise level/distance relationship was used to calculate the expected noise level at the nearest sensitive receptors based on the proposed locations of the Universal Charging Floats. It is assumed that this equipment operates as a point source of noise, which has a characteristic noise attenuation of 6 dBA per doubling of distance away from the source.

Mobile Operational Noise

The following approach was used for noise impacts from the operation of ferry vessels. Noise measurement data for various electric and hybrid ferry vessels completed as part of the Silent@Sea project[12] demonstrate that ferry vessels operating in electric propulsion mode generate noise levels up to 73 dBA at a distance of 10 meters (32.8 feet). Use of this reference noise level represents a conservative analysis, as it is based on noise measurement data of much larger vessels (i.e., vessels 111 meters in length); therefore, noise levels generated by the Berkeley WTPF ferry vessels would likely be even lower. To determine compliance with the City's noise limits, this noise level/distance relationship was used to calculate the expected noise level at the nearest sensitive receptors based on the proposed location of the ferry vessels and the nearest distance ferry vessels may operate relative to nearby sensitive receptors.

In addition to operation of the ferry, the project would generate mobile operational noise in the form of additional vehicles on nearby roadways (i.e., primarily on University Avenue) due to visitors traveling to and from the project site. Existing roadway vehicles volumes were compared with project-generated roadway vehicles volumes to determine the relative roadway vehicles noise increase. Existing and project-generated roadway vehicles volumes used in this analysis are based on roadway vehicles data provided by Kittelson & Associates, Inc.[13], presented in Table 3.10-9.

[11] This equipment was chosen as a representative unit based on a review of various makes/models of similar marine equipment.
[12] Johansson, Torbjörn et al. 2024. Noise from ships powered by LNG or electricity and its effects: a cross-domain investigation. Silent@Sea Project. January.
[13] See Appendix E.

Table 3.10-9 Comparison of Existing and Project-Generated Roadway Vehicles Volumes

Roadway	Segment	Existing ADT	Project-Generated Daily Trips
University Avenue	Seawall Drive to Marina Blvd	1,471	1,127
University Avenue	Marina Blvd to Frontage Road	9,350	1,127
University Avenue	Frontage Road to Sixth Street	27,000	648
University Avenue	Sixth Street to San Pablo Drive	29,753	540

ADT = average daily traffic
Source: Appendix E (Segment ADT)

To assess the increase in roadway vehicles noise on each roadway segment, the following equation was used, which is based on the fact that a doubling of roadway vehicles volumes results in a perceived 3 dBA noise increase:

$$Traffic\ Noise\ Increase = 10 * LOG(\frac{Project - Generated\ Traffic\ Volume}{Existing\ Traffic\ Volume})$$

Groundborne Vibration

The Federal Transit Administration (FTA) provides reasonable criteria for assessing vibration impacts during construction in the *Transit Noise and Vibration Impact Assessment Manual*. This document establishes construction vibration limits based on the potential for minor architectural damage (i.e., non-structural) to nearby structures. Construction vibration limits are shown in Table 3.10-10.

Table 3.10-10 FTA Criteria for Vibration Damage Potential

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

in/sec = inches per second; PPV = peak particle velocity
Source: Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. November. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed July 2025).

The nearest buildings in the vicinity of the project site include three commercial structures: the Skates on the Bay Restaurant (located north of the proposed public plaza), Marina offices (located along University Avenue), and the HS Lordships Building (located near the southern tip of the project site). These buildings fall under Building Category II.

The proposed project would not include groundborne vibration sources associated with operation. Therefore, construction activities have the greatest potential to generate groundborne vibration affecting nearby sensitive receptors. Construction vibration levels that could occur due to project construction are based on reference vibration levels published by the FTA and distances between expected vibration-generating construction activities and nearby structures. Table 3.10-11 shows typical vibration levels produced by types of construction equipment expected to be used during construction of the project.

Table 3.10-11 Typical Vibration Levels Generated by Various Construction Equipment

Equipment	PPV at 25 ft. (in./sec.)
Impact Pile Driver	1.518 (upper range)
	0.644 (typical)
Sonic Pile Driver	0.734 (upper range)
	0.17 (typical)
Vibratory Roller	0.210
Large[1] Earthmoving Equipment (e.g., Backhoe, Dozer, Excavator, Grader, etc.)	0.089
Loaded Trucks	0.076

in/sec = inches per second; PPV = peak particle velocity

[1] "Large" equipment in this context refers to equipment rated at 100 horsepower (hp) or greater.

[2] "Small" equipment in this context refers to equipment rated at less than 100 hp

Source: Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment. November. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed July 2025).

EIR Scoping Comments Consideration

This section addresses comments submitted by individuals and organizations in response to the EIR NOP related to various concerns regarding noise impacts.

Organizations and individuals provided comments related to noise impacts from ferry operations. These comments are discussed in the impact analysis below in Impact NOI-1. Scoping comments related to noise impacts on biological resources, or underwater noise are addressed in Section 3.4, *Biological Resources.*

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds of significance are used to evaluate the significance of noise and vibration resulting from implementation of the proposed project.

Construction Noise

The proposed project could have a significant impact if construction were to occur outside of the allowable hours established in Berkeley Municipal Code Section 13.40.070(B)(7) (between 7:00 a.m. and 7:00 p.m. on weekdays or between 9:00 a.m. and 8:00 p.m. on weekends or holidays). In addition, construction noise impacts associated with the proposed project would be considered significant if construction noise levels generated during allowable hours were to exceed the City's construction noise standards in Section 13.40.070(B)(7) (presented in Table 3.10-6 and Table 3.10-7 above).

While not zoned as residential uses, the live-aboard boats within the Marina were conservatively evaluated using the City's construction noise limits for low-density, multi-family residential land uses. The multi-family residential threshold was chosen due to the quantity and density of live-aboard boats in the Marina as well as the fact that the surrounding noise environment and nearby land uses are more similar to that of a typical multi-family residential area compared to that of a typical low-density residential area. Therefore, construction noise impacts upon live-aboard boats were evaluated using the City's construction noise threshold of 65 dBA for multi-family residential land uses. The construction noise modeling in Impact NOI-1 uses the closest potential distance that

a live-aboard boat could be to construction, in order to provide a conservative analysis of the loudest noise that could occur. Live-aboard boats within the Marina are located as close as approximately 140 feet north of the project footprint. Thirteen houseboats within the Marina located at the H and I docks as close as approximately 260 feet northwest of the project footprint. Given that houseboats would be located further away than the closest live-aboard, the analysis included in Impact NOI-1 would also apply for the houseboats.

The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (such as Shorebird Park); however, these uses are considered to be noise-sensitive receptors pursuant to Berkeley General Plan Environmental Management Element Policy EM-47.[14] Therefore, the City's daytime construction noise threshold for similar noise-sensitive uses (i.e., low-density residential land uses) of 60 dBA was used.

Stationary Operational Noise

Stationary operational noise impacts from mechanical equipment were analyzed using the Berkeley Municipal Code maximum noise standards for multi-family residential as shown in Table 3.10-5 above. As explained above in the *Construction Noise* subsection, the multi-family residential land use was used for the live-aboard boats, to provide a conservative analysis.

Pursuant to Berkeley Municipal Code Section 13.40.100, special event noise from the public plaza would be significant if amplified sound increases the ambient noise level by more than 15 dBA 50 feet from the sound amplifying equipment. As discussed in the *Existing Noise Conditions and Sources* section, the existing ambient noise level at ST-4 near the proposed plaza was measured to be 51.6 dBA L_{eq} during the day. Therefore, noise from special events would be significant if it exceeds 66.6 dBA L_{eq} at 50 feet from the sound amplifying equipment.

Mobile Operational Noise

A project normally has a significant effect on the environment related to noise if it substantially increases the ambient noise levels in adjoining areas. Most people of average hearing ability can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions. Changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually not discernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance, which are similar to those recommended by the Federal Aviation Administration (FAA)[15] were used to assess mobile off-site operational noise impacts (i.e., roadway vehicle noise impacts) at sensitive receptors:

- Greater than 1.5 dBA L_{dn}/CNEL increase for ambient noise environments of 65 dBA L_{dn}/CNEL and higher
- Greater than 3 dBA L_{dn}/CNEL increase for ambient noise environments of 60-64 L_{dn}/CNEL
- Greater than 5 dBA L_{dn}/CNEL increase for ambient noise environments of less than 60 dBA L_{dn}/CNEL

[14] Berkeley, City of. 2002. Berkeley General Plan Environmental Management Element. Available: https://berkeleyca.gov/sites/default/files/documents/11_Environmental%20Management%20Element-FINAL.pdf (accessed February 2026).
[15] Federal Aviation Administration (FAA). 2020. 1050.1F Desk Reference Chapter 11, Noise. February. Available: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref (accessed February 2026).

As discussed in the *Existing Noise Conditions and Sources* section, the existing ambient noise level at the project site was measured between approximately 49 and 57 dBA CNEL. Therefore, roadway vehicle noise impacts would be considered significant if project-generated roadway vehicles were to increase noise levels by 5 dBA CNEL or more.

Vibration

The City has not adopted a significance threshold to assess vibration impacts during construction and operation. Therefore, vibration criteria recommended by the FTA (shown in Table 3.10-10) were used to evaluate potential construction vibration impacts. Vibration impacts associated with construction of the project would be significant if vibration levels exceed the FTA criteria shown in Table 3.10-10 above at the nearest building structures. Based on these limits, vibration impacts would be considered significant if levels were to exceed 0.3 in/sec PPV at any of the three commercial structures near the project site. The nearest live-aboard boats and houseboats are located on the water (and not on the ground surface where construction equipment would primarily be operating). Due to the difference in mechanical impedance between the ground and water surface, groundborne vibration levels resulting from use of construction equipment on land would not effectively transmit to the water, as there would be substantial vibration energy loss at the interface between land and water. Vibration levels at the nearest live-aboard boats and houseboats would be negligible and are not evaluated further.

Impact Evaluation

Ambient Noise Compared to Standards

Significance Criterion a:	Would the proposed project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

IMPACT NOI-1

OPERATIONAL IMPACTS: MOBILE AND STATIONARY OPERATIONAL NOISE IMPACTS WOULD BE LESS THAN SIGNIFICANT.

CONSTRUCTION IMPACTS: MOST PROJECT CONSTRUCTION NOISE IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION; HOWEVER, CONSTRUCTION NOISE LEVELS AT SOME NEARBY SENSITIVE RECEPTORS, INCLUDING FOR NIGHTTIME CONSTRUCTION WORK, WOULD STILL EXCEED CITY THRESHOLDS AND, THUS, OVERALL CONSTRUCTION NOISE IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Construction

STAGING AREAS

During construction of the project, three proposed areas would be used for staging of construction equipment and storage of materials, as shown in Figure 2-2: Skates on the Bay/North Parking Lot, Parking Lot M, and South Seawall Drive Parking Lot. Use of these staging areas would generate noise as equipment and materials are prepared to mobilize for work activities. Noise produced by use of the staging areas is assumed to primarily consist of operation of one loader and two trucks, which are conservatively assumed to be operating simultaneously. Noise levels associated with use of the

staging areas are estimated at nearby sensitive receptors and presented in Table 3.10-12. As shown in Table 3.10-12, noise generated by use of construction staging areas would not exceed the City's respective thresholds at the nearest sensitive receptors. Therefore, construction noise impacts associated with the temporary use of construction staging areas would be less than significant.

Table 3.10-12 Noise Levels at Nearby Sensitive Receptors (Construction Staging Areas)

Construction Phase	Staging Location	Nearest Sensitive Receptor	Distance to Nearest Sensitive Receptor (feet)	Noise Level at Nearest Sensitive Receptor (dBA)	Applicable Noise Threshold (dBA)[1]	Exceeds Threshold?
Staging Areas	Skates on the Bay/N Parking Lot	Skates on the Bay Restaurant[2]	230	63	70	No
	Skates on the Bay/N Parking Lot	Nearest live-aboard boat[3]	260	62	65	No
	Parking Lot M	Nearest live-aboard boat[3]	205	64	65	No
	South Seawall Drive Parking Lot	Shorebird Park[4]	320	60	60	No

dBA = A-weighted decibels

[1] The applicable noise threshold is based on the City's construction noise limits specified in Section 13.40.070(B)(7) of the BMC, which vary depending on the duration of construction. Note that staging areas would be used for the duration of construction and would be used for more than 10 days. For construction lasting 10 days or more, the applicable low-density residential, multi-family residential, and commercial noise limits are 60, 65, and 70 dBA, respectively.

[2] While restaurants are not typically considered noise-sensitive receptors, these uses were included as sensitive receptors in the analysis as the City defines construction noise limits for commercial uses.

[3] Exact locations of live-aboard boats within the Marina are not known; however, based on information provided by the City, up to 100 live-aboard boats are allowed/may be present in the Marina at a given time. For evaluation of construction noise impacts associated with staging areas, this analysis conservatively assumes that the nearest live-aboard boat is along the edge of the Marina nearest to proposed staging areas.

[4] The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (e.g., Shorebird Park); however, these uses are typically considered to be noise-sensitive receptors; therefore, the City's daytime construction noise threshold for similar noise-sensitive uses (i.e., low-density residential land uses) of 60 dBA was used.

Source: See Appendix E for construction noise modeling results.

CONSTRUCTION ACTIVITIES

Landside

Construction of landside components would be limited to between 7:00 a.m. and 7:00 p.m. on weekdays and between 9:00 a.m. and 8:00 p.m. on weekends or holidays, consistent with Section 13.40.070(B)(7) of the City's Municipal Code. Landside improvements would include the public plaza, improvements on University Avenue and Seawall Drive, the renovated parking lot, the new Bay Trail Extension, and all associated amenities and utilities. Construction of landside components

would include demolition; site preparation; geotechnical solutions, such as deep soil mixing and/or retaining walls at the proposed plaza; grading; construction of proposed project components; paving; landscaping; and placement of amenities.

Landside construction activities would occur in various locations within the project area. Construction noise levels were conservatively calculated based on the closest distance between each primary work area and the nearest sensitive receptor. Due to the mobile nature of construction equipment over the course of a workday, construction noise levels at nearby sensitive receptors were calculated from the approximate center of the various work areas, as this is more representative of average noise levels over the course of a day. Estimated unmitigated landside construction noise levels are presented at nearby sensitive receptors by construction phase in Table 3.10-13. As shown in Table 3.10-13, unmitigated construction noise levels associated with most phases of construction (i.e., site preparation, grading, geotechnical solutions, building construction, paving, landscaping, and amenities installation) would exceed the City's daytime noise limits at the respective nearby sensitive receptors. Noise impacts associated with landside construction activities would be potentially significant.

Implementation of Mitigation Measure NOI-1, including the use of temporary noise barriers, would reduce landside construction noise levels by up to 20 dBA.[16,17] A comparison of landside construction noise levels at nearby sensitive receptors with and without implementation of Mitigation Measure NOI-1 is presented by phase in Table 3.10-14. As shown in Table 3.10-14, implementation of Mitigation Measure NOI-1 would reduce construction noise levels associated with each phase of landside construction to below the City's respective limits at nearby sensitive receptors. Therefore, landside construction noise impacts would be less than significant with mitigation.

[16] Bies, David A, Colin H. Hansen, and Carl Q Howard. 2018. Engineering Noise Control, Fifth Edition.
[17] Harris, Cyril M. 1991. Handbook of Acoustical Measurements and Noise Control.

Table 3.10-13 Landside Construction Noise Levels at Nearby Sensitive Receptors by Phase (Unmitigated)

Construction Phase	Duration (days)	Primary Work Area	Nearby Sensitive Receptor	Distance to Sensitive Receptor (feet)[1]	Noise Level at Sensitive Receptor (dBA)	Applicable Noise Threshold (dBA)[2]	Exceeds Threshold?
Demolition	10	At pier entrance	Skates on the Bay Restaurant[3]	230	70	70	No
			Nearest live-aboard boat[4]	670	61	65	No
Site Preparation	14	At Seawall Drive parking lot	Shorebird Park[5]	320	67	60	**Yes**
Grading	15	At public plaza	Shorebird Park[5]	150	75	60	**Yes**
			Nearest live-aboard boat[4]	640	63	65	No
Geotechnical Solutions	15	At public plaza	Shorebird Park[5]	150	75	60	**Yes**
			Nearest live-aboard boat[4]	640	63	65	No
Building Construction – Restroom	10	At public plaza	Shorebird Park[5]	150	73	60	**Yes**
			Nearest live-aboard boat[4]	640	60	65	No
Paving	20	Along University Avenue	Marina Offices[3]	55	85	70	**Yes**
			Nearest live-aboard boat[4]	310	70	65	**Yes**
Landscaping	15	Along Seawall Drive	Shorebird Park[5]	310	64	60	**Yes**
			Nearest live-aboard boat[4]	1,275	51	65	No
Amenities Installation	25	At public plaza	Shorebird Park[5]	150	75	60	**Yes**
			Nearest live-aboard boat[4]	640	62	65	No

dBA = A-weighted decibels

[1] The distances from construction work areas to nearest sensitive receptors were determined from the approximate centers of the primary work areas where equipment is assumed to operate for extended periods of time.

[2] The applicable noise threshold is based on the City's construction noise limits specified in Section 13.40.070(B)(7) of the BMC, which vary depending on the duration of construction. For construction lasting less than 10 days, the applicable daytime multi-family residential and commercial limits are 75 and 85 dBA, respectively. For construction lasting 10 days or more, the applicable daytime multi-family residential and commercial limits are 65 dBA and 70 dBA, respectively.

[3] While commercial uses (e.g., restaurants and offices) are not typically considered to be noise-sensitive receptors, these uses were included as sensitive receptors in the analysis as the City defines construction noise limits for commercial uses.

[4] Exact locations of live-aboard boats within the Marina are not known; however, based on information provided by the City, up to 100 live-aboard boats are allowed/may be present in the Marina at a given time. This analysis conservatively assumes that the nearest live-aboard boat is situated at a location within the Marina that is nearest to proposed construction activity during each phase of construction.

[5] The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (e.g., Shorebird Park); however, these uses are typically considered to be noise-sensitive receptors; therefore, the City's daytime construction noise threshold for similar noise-sensitive uses (i.e., low-density residential land uses) of 60 dBA was used.

Source: See Appendix E for construction noise modeling results.

Table 3.10-14 Comparison of Landside Construction Noise Levels at Nearby Sensitive Receptors by Phase (Unmitigated and Mitigated)

Construction Phase	Duration (days)	Primary Work Area	Nearby Sensitive Receptor	Noise Level at Sensitive Receptor (dBA)		Applicable Noise Threshold (dBA)[2]	Exceeds Threshold?
				Unmitigated	With Mitigation[1]		
Demolition	10	At pier entrance	Skates on the Bay Restaurant[3]	70	50	70	No
			Nearest live-aboard boat[4]	61	41	65	No
Site Preparation	14	At Seawall Drive parking lot	Shorebird Park[5]	67	47	60	No
Grading	15	At public plaza	Shorebird Park[5]	75	55	60	No
			Nearest live-aboard boat[4]	63	43	65	No
Geotechnical Solutions	15	At public plaza	Shorebird Park[5]	75	55	60	No
			Nearest live-aboard boat[4]	63	43	65	No
Building Construction – Restroom	10	At public plaza	Shorebird Park[5]	73	53	60	No
			Nearest live-aboard boat[4]	60	40	65	No
Paving	20	Along University Avenue	Marina Offices[3]	85	65	70	No
			Nearest live-aboard boat[4]	70	50	65	No
Landscaping	15	Along Seawall Drive	Shorebird Park[5]	64	44	60	No
			Nearest live-aboard boat[4]	51	31	65	No
Amenities Installation	25	At public plaza	Shorebird Park[5]	75	55	60	No
			Nearest live-aboard boat[4]	62	42	65	No

dBA = A-weighted decibels; MM = Mitigation Measure

[1] All noise levels presented at sensitive receptors in this column account for the noise reduction provided by Mitigation Measure NOI-1, which is estimated to provide 20 dBA of noise reduction for general construction activities.

[2] The applicable noise threshold is based on the City's construction noise limits specified in Section 13.40.070(B)(7) of the BMC, which vary depending on the duration of construction. For construction lasting less than 10 days, the applicable daytime multi-family residential and commercial limits are 75 and 85 dBA, respectively. For construction lasting 10 days or more, the applicable daytime multi-family residential and commercial limits are 65 dBA and 70 dBA, respectively.

[3] While commercial uses (e.g., restaurants and offices) are not typically considered to be noise-sensitive receptors, these uses were included as sensitive receptors in the analysis as the City defines construction noise limits for commercial uses.

[4] Exact locations of live-aboard boats within the Marina are not known; however, based on information provided by the City, up to 100 live-aboard boats are allowed/may be present in the Marina at a given time. This analysis conservatively assumes that the nearest live-aboard boat is situated at a location within the Marina that is nearest to proposed construction activity during each phase of construction.

[5] The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (e.g., Shorebird Park); however, these uses are typically considered to be noise-sensitive receptors; therefore, the City's daytime construction noise threshold for similar noise-sensitive uses (i.e., low-density residential land uses) of 60 dBA was used.

Source: See Appendix E for construction noise modeling results.

Waterside

Like landside project components, construction of waterside components would be limited to between 7:00 a.m. and 7:00 p.m. on weekdays and between 9:00 a.m. and 8:00 p.m. on weekends or holidays, consistent with Section 13.40.070(B)(7) of the City's Municipal Code. However, construction of waterside components may also require nighttime work to complete pile driving. Noise impacts associated with nighttime construction work is discussed in the following section. Waterside improvements would include improvements for the new pier, breakwater, and associated amenities for recreation and the ferry. Construction of waterside components would include demolition, dredging, pile installation, installation of the deck, float, and gangway, and placement of amenities.

Waterside construction activities would primarily occur near the pier entrance, which represents the location of waterside construction activities occurring to the nearest sensitive receptor (i.e., Shorebird Park to the east). Construction noise levels for all waterside activities were conservatively calculated assuming that all construction equipment for each phase would be operating simultaneously in this area. Estimated waterside construction noise levels are presented by construction phase in Table 3.10-15. As shown in Table 3.10-15, construction noise levels associated with most phases of waterside activities would exceed the City's applicable noise threshold at the nearest sensitive receptors (i.e., Shorebird Park to the east, Skates on the Bay Restaurant to the north, and live-aboard boats to the northeast). Noise impacts associated with waterside construction activities would be potentially significant.

Implementation of Mitigation Measure NOI-1, including the use of temporary noise barriers, would reduce construction noise levels by up to 20 dBA for demolition, dredging, and construction of waterside infrastructure and amenities (excluding pile driving).[18,19] Shrouding of pile driving equipment would attenuate noise levels by 10 dBA or more. A comparison of waterside construction noise levels at nearby sensitive receptors with and without implementation of Mitigation Measure NOI-1 is presented in Table 3.10-16. As shown in Table 3.10-16, implementation of Mitigation Measure NOI-1 would result in mitigated daytime construction noise levels of up to 70 dBA at Shorebird Park, up to 67 dBA at the Skates on the Bay Restaurant, and up to 57 dBA at the nearest live-aboard boats. Mitigated general construction noise levels at the Skates on the Bay Restaurant and the nearest live-aboard boats would not exceed the City's daytime noise thresholds of 70 and 65 dBA for commercial and multi-family residential uses, respectively. However, mitigated pile driving noise levels (during the demolition and pile installation phases) at Shorebird Park would still exceed the City's daytime construction noise threshold of 60 dBA for low-density residential (or similar noise-sensitive uses). Therefore, waterside construction noise impacts associated with pile driving would be significant and unavoidable.

[18] Bies, David A, Hansen, Colin H., Howard, Carl Q. 2018. Engineering Noise Control, Fifth Edition.
[19] Harris, Cyril M. 1991. Handbook of Acoustical Measurements and Noise Control.

Table 3.10-15 Waterside Construction Noise Levels at Nearby Sensitive Receptors by Phase (Unmitigated)

Construction Phase	Duration (days)	Primary Work Area	Nearby Sensitive Receptor	Distance to Sensitive Receptor (feet)[1]	Noise Level at Sensitive Receptor (dBA)	Applicable Noise Threshold (dBA)[2]	Exceeds Threshold?
Demolition	50	At pier entrance	Shorebird Park[3]	150	80	60	**Yes**
			Skates on the Bay Restaurant	230	77	70	**Yes**
			Nearest live-aboard boat[4]	670	67	65	**Yes**
Dredging	83	At pier entrance	Shorebird Park[3]	150	70	60	**Yes**
			Skates on the Bay Restaurant	230	66	70	No
			Nearest live-aboard boat[4]	670	58	65	No
Pile Installation	49	Along pier	Shorebird Park[3]	150	79	60	**Yes**
			Skates on the Bay Restaurant	230	75	70	**Yes**
			Nearest live-aboard boat[4]	670	66	65	**Yes**
Deck, Float, and Gangway Construction	120	At pier entrance	Shorebird Park[3]	150	76	60	**Yes**
			Skates on the Bay Restaurant	230	73	70	**Yes**
			Nearest live-aboard boat[4]	670	63	65	No
Amenities Installation	95	At pier entrance	Shorebird Park[3]	150	71	60	**Yes**
			Skates on the Bay Restaurant	230	68	70	No
			Nearest live-aboard boat[4]	670	58	65	No

dBA = A-weighted decibels

[1] All equipment in each waterside construction phase was conservatively assumed to operate near the pier entrance, as this represents the closest location where construction activity may occur relative to nearby sensitive receptors for extended periods of time.

[2] The applicable noise threshold is based on the City's construction noise limits specified in Section 13.40.070(B)(7) of the BMC, which vary depending on the duration of construction. For construction lasting less than 10 days, the applicable daytime residential and commercial limits are 75 and 85 dBA, respectively. For construction lasting 10 days or more, the applicable daytime residential and commercial limits are 60 dBA and 70 dBA, respectively.

[3] The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (e.g., Shorebird Park); however, these uses are typically considered to be noise-sensitive receptors; therefore, the City's daytime construction noise threshold for similar noise-sensitive uses (i.e., low-density residential land uses) of 60 dBA was used.

[4] Exact locations of live-aboard boats within the Marina are not known; however, based on information provided by the City, up to 100 live-aboard boats are allowed/may be present in the Marina at a given time. For evaluation of waterside construction noise impacts, this analysis conservatively assumes that the nearest live-aboard boat is situated at the southwestern corner of the Marina, as this represents the nearest location to proposed waterside construction activities.

Source: See Appendix E for construction noise modeling results.

Table 3.10-16 Comparison of Waterside Construction Noise Levels at Nearby Sensitive Receptors by Phase (Unmitigated and Mitigated)

Construction Phase	Duration (days)	Primary Work Area	Nearby Sensitive Receptor	Noise Level at Sensitive Receptor (dBA)		Applicable Noise Threshold (dBA)[2]	Exceeds Threshold?
				Unmitigated	With Mitigation[1]		
Demolition	50	At pier entrance	Shorebird Park[3]	80	70	60	**Yes**
			Skates on the Bay Restaurant	77	67	70	No
			Nearest live-aboard boat[4]	67	57	65	No
Dredging	83	At pier entrance	Shorebird Park[3]	70	50	60	No
			Skates on the Bay Restaurant	66	56	70	No
			Nearest live-aboard boat[4]	58	38	65	No
Pile Installation	49	Along pier	Shorebird Park[3]	79	69	60	**Yes**
			Skates on the Bay Restaurant	75	65	70	No
			Nearest live-aboard boat[4]	66	56	65	No
Deck, Float, and Gangway Construction	120	At pier entrance	Shorebird Park[3]	76	56	60	No
			Skates on the Bay Restaurant	73	53	70	No
			Nearest live-aboard boat[4]	63	43	65	No
Amenities Installation	95	At pier entrance	Shorebird Park[3]	71	51	60	No
			Skates on the Bay Restaurant	68	48	70	No
			Nearest live-aboard boat[4]	58	38	65	No

dBA = A-weighted decibels; MM = Mitigation Measure

[1] All noise levels presented at sensitive receptors in this column account for the noise reduction provided by Mitigation Measure NOI-1, which is estimated to provide 20 dBA of noise reduction for phases consisting of general construction activities (i.e., dredging, deck, float, and gangway construction, and amenities installation) and 10 dBA of noise reduction for phases consisting of pile driving activities (i.e., demolition and pile installation).

[2] The applicable noise threshold is based on the City's construction noise limits specified in Section 13.40.070(B)(7) of the BMC, which vary depending on the duration of construction. For construction lasting less than 10 days, the applicable daytime residential and commercial limits are 75 and 85 dBA, respectively. For construction lasting 10 days or more, the applicable daytime residential and commercial limits are 60 dBA and 70 dBA, respectively.

[3] The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (e.g., Shorebird Park); however, these uses are typically considered to be noise-sensitive receptors; therefore, the City's daytime construction noise threshold for similar noise-sensitive uses (i.e., low-density residential land uses) of 60 dBA was used.

[4] Exact locations of live-aboard boats within the Marina are not known; however, based on information provided by the City, up to 100 live-aboard boats are allowed/may be present in the Marina at a given time. For evaluation of waterside construction noise impacts, this analysis conservatively assumes that the nearest live-aboard boat is situated at the southwestern corner of the Marina, as this represents the nearest location to proposed waterside construction activities.

Source: See Appendix E for construction noise modeling results.

Nighttime Construction Work

Construction of waterside components may require nighttime construction work, which would consist of pile driving to install piles for the pier. Nighttime pile driving is assumed to utilize the same equipment as that during the daytime pile installation phase, which would be an impact pile driver, crane, and a compressor. Simultaneous operation of these equipment types would produce a combined noise level of 89 dBA L_{eq} at a reference distance of 50 feet. During the initial periods of pile installation, pile driving would occur at the pier entrance as close as 150 feet from Shorebird Park and as close as 670 feet from the nearest potential live-aboard boat. At these distances, pile driving activity would generate noise levels up to 79 and 66 dBA L_{eq} at Shorebird Park and the nearest live-aboard boat, respectively, which would exceed the respective City's nighttime noise limits of 45 dBA at R-1 and R-2 zoning districts and 55 dBA at R-3 zoning districts.[20] Therefore, noise impacts associated with nighttime construction work would be potentially significant.

Implementation of Mitigation Measure NOI-1 would include measures to reduce noise impacts associated with nighttime pile driving, which would reduce nighttime construction noise impacts by up to 10 dBA or more. A comparison of nighttime construction noise levels with and without implementation of Mitigation Measure NOI-1 is presented in Table 3.10-17. As shown in Table 3.10-17, mitigated nighttime pile driving noise levels at Shorebird Park would be reduced from 79 dBA to 69 dBA, which would exceed the City's nighttime noise threshold of 45 dBA for R-1 and R-2 (i.e., low-density residential) zones. Mitigated nighttime construction noise levels at the nearest live-aboard boat would be reduced from 66 dBA to 56 dBA, which would exceed the City's nighttime noise threshold of 55 dBA at R-3 (i.e., "Multi-family Residential") zones. Therefore, noise impacts associated with nighttime construction work would be significant and unavoidable.

[20] The zoning for the Marina area is "Unclassified" according to City's Official Zoning Map (June 2022). However, based on the noise sensitivity of Shorebird Park, it is assumed that the noise threshold for R-1/R-2 zoning (i.e., low-density residential) is most applicable to this sensitive receptor. Based on the number of live-aboard boats within the Marina, it is assumed that the R-3 zoning (i.e., "Multiple-family Residential") is most applicable to these sensitive receptors.

Table 3.10-17 Comparison of Nighttime Construction Noise Levels (Unmitigated and Mitigated)

Construction Phase	Duration (days)	Primary Work Area	Nearby Sensitive Receptor	Noise Level at Sensitive Receptor (dBA)		Applicable Noise Threshold (dBA)[2]	Exceeds Threshold?
				Unmitigated	With Mitigation[1]		
Pile Installation	49	Along pier	Shorebird Park[3]	79	69	45	**Yes**
			Nearest live-aboard boat[4]	66	56	55	**Yes**

dBA = A-weighted decibels; MM = Mitigation Measure

[1] All noise levels presented at sensitive receptors in this column account for the noise reduction provided by Mitigation Measure NOI-1, which is estimated to provide 20 dBA of noise reduction for general construction activities and 10 dBA of noise reduction for pile driving activities.

[2] The applicable noise threshold is based on the City's nighttime exterior noise limits specified in Section 13.40.050 of the BMC, which vary depending on zoning district. For nighttime construction impacts to low-density residential and multi-family residential uses, the applicable nighttime noise limits are 45 and 55 dBA, respectively.

[3] The City does not define construction noise thresholds for parks or similar outdoor recreation spaces (e.g., Shorebird Park); however, these uses are typically considered to be noise-sensitive receptors; therefore, the City's nighttime exterior noise limit for similar noise-sensitive uses (i.e., low-density residential land uses) of 45 dBA was used.

[4] Exact locations of live-aboard boats within the Marina are not known; however, based on information provided by the City, up to 100 live-aboard boats are allowed/may be present in the Marina at a given time. For evaluation of waterside construction noise impacts, this analysis conservatively assumes that the nearest live-aboard boat is situated at the southwestern corner of the Marina, as this represents the nearest location to proposed waterside construction activities.

Source: See Appendix E for construction noise modeling results.

Operation

STATIONARY NOISE

Public Plaza

The primary sources of stationary noise associated with operation of the project would include operation of the new ferry, use of the new public plaza, and recreational use of the extended pier and breakwater. Noise generated by use of the extended pier and breakwater would primarily consist of people walking and fishing along the pier, which are activities that are already a common occurrence in the project area and that are, therefore, not expected to generate substantial noise levels above existing conditions; therefore, noise impacts associated with recreational use of the extended pier and breakwater are considered to be less than significant. The public plaza may be used for special events such as small concerts, fishing derbies, and pop-up-style events, which would be limited to approximately twelve days per year between the hours of 10:00 a.m. and 8:00 p.m. It should be noted that amplified sound would only occur during these special events and would require a permit pursuant to BMC 13.40.100. As part of the permit process, special event sponsors would be required to demonstrate that amplified sound would not be 15 dBA above the ambient noise level measured at any point 50 feet from the sound amplifying equipment. Methods may include but are not limited to requiring speakers to be oriented away from residential areas and other sensitive receptors and imposing operational restrictions such as allowable hours and compliance with other permit conditions. Therefore, impacts associated with use of the public plaza would be less than significant.

Mechanical Equipment

Operation of the project would include two Universal Charging Floats used to charge the electric ferry vessels. Primary noise-generating equipment associated with these charging floats would include onboard cooling equipment (i.e., HVAC units, ventilation fans, cooling pumps, cooling skids). The exact equipment to be included is not known at this time; therefore, this analysis assumes a commercial packaged chiller and heat pump unit used for maritime applications: a Carrier 30 WG chiller/heat pump, which produces a noise level of 67 dBA at a distance of one meter (or 3.28 feet).[21] The Universal Charging Floats would be located on the north side of the pier, approximately 400 feet from the Skates on the Bay Restaurant and approximately 1,000 feet from the nearest live-aboard boat at the southwest corner of the Marina. Assuming each ferry may include two packaged chiller/heat pump units, the combined noise level resulting from simultaneous operation of four packaged chiller/heat pump units would be approximately 31 dBA at the Skates on the Bay Restaurant and 23 dBA at the nearest live-aboard boat, which would not exceed the daytime or nighttime City's noise limits for multi-family residential or commercial zoning.[22] Note that is an overly conservative analysis of noise impacts as the mechanical equipment associated with the Universal Charging Floats would likely be housed internally to protect from the weather, which would further reduce noise levels produced by the mechanical equipment. Therefore, operational noise impacts associated with use of mechanical equipment would be less than significant.

Maintenance Activities

Once operational, the project would require routine maintenance, which would consist of emptying trash receptacles, cleaning the restroom, maintaining landscaped areas, pressure washing the pier (as necessary), restriping and seal coating asphalt (as necessary), changing light fixtures, and repairing facilities (as necessary). These maintenance activities are not expected to generate substantial levels of noise and are a common occurrence in the project area already. Therefore, operational noise impacts associated with maintenance activities would be less than significant.

MOBILE NOISE

Roadway Vehicle Noise

Following the methodology discussed above, roadway vehicle noise increases associated with additional project-generated roadway vehicles were calculated for each roadway segment based on data provided by Kittelson & Associates, Inc. Estimated roadway vehicles noise increases for segments of University Avenue are presented in Table 3.10-18.

[21] In the absence of design-level details, this unit is considered representative of maritime units.
[22] As shown in Table 3.10-5, the City's daytime and nighttime noise thresholds for commercial zoning are 65 and 60 dBA, respectively. The City's noise thresholds for multi-family residential zoning are 60 and 55 dBA, respectively.

Table 3.10-18 Comparison of Existing and Project-Generated Roadway Vehicle Volumes and Associated Noise Increases

Roadway	Segment	Existing ADT	Year 1 Project-Generated Daily Trips	Noise Increase (dBA CNEL)	Significant Increase?
University Avenue	Seawall Drive to Marina Blvd	1,471	1,127	2.5	No
University Avenue	Marina Blvd to Frontage Road	9,350	1,127	0.5	No
University Avenue	Frontage Road to Sixth Street	27,000	648	0.1	No
University Avenue	Sixth Street to San Pablo Drive	29,753	540	0.1	No

ADT = average daily traffic; dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level

Source: Appendix E (Segment ADT)

As shown in Table 3.10-18, the project would generate roadway vehicles noise increases up to 2.5 dBA CNEL, which would not exceed the significance threshold of 5 dBA CNEL for roadway vehicle noise impacts. Therefore, operational noise impacts associated with roadway vehicle movement would be less than significant.

Secondary Mobile Operational Noise Impacts

The City has received comments from the public, stating that use of the parking lot by ferry users may reduce access for swimming, windsurfing, kayaking, fishing, and other recreational uses. Pursuant to San Franciscans Upholding the Downtown Plan v. City & County of San Francisco (2002) 102 Cal. App. 656 at 697, scarcity of parking is not a CEQA impact in and of itself, but it could be considered a potential secondary impact under CEQA if it resulted in such an effect that would result in a physical impact on the environment, such as resulting in additional roadway vehicle noise from vehicles looking to recreate circulating longer to locate parking in a manner that exceeds City noise standards.

The number of vehicles generated by the project is identified in Table 3.10-18, above, and parking space availability is detailed in Appendix F. Secondary impacts from operational noise from vehicles circulating for parking is expected to be less than significant.

Noise from Operation of Ferry Vessels

Ferry vessels would operate at the north end of the pier, as close as approximately 400 feet from the nearest sensitive receptor (i.e., the Skates on the Bay Restaurant located to the northeast). At this distance, operation of the ferry vessels would generate noise levels up to 52 dBA at the Skates on the Bay Restaurant, which would not exceed the City's daytime or nighttime exterior noise limits of 65 and 60 dBA, respectively, at commercial land uses. Therefore, operational noise impacts associated with the ferry vessels would be less than significant. For the noise impact associated with operation of ferry vessels as it relates to potential impacts related to biological resources discussion, see Impact BIO-1 in Section 3.3, *Biological Resources.*

Mitigation Measures

MITIGATION MEASURE NOI-1: PREPARE AND IMPLEMENT CONSTRUCTION NOISE MANAGEMENT PLAN PRIOR TO AND DURING CONSTRUCTION

Prior to the start of construction activities, a Construction Noise Management Plan shall be submitted to and approved by the City's Public Works Department. The Construction Noise Management Plan shall include the following:

- Prior to the initiation of construction activities at the project site, the contractor shall install temporary noise barriers/blankets between the construction boundary and nearby sensitive receptors. The temporary barriers/blankets shall have a minimum height of 12 feet to block the line of sight between operating construction equipment and adjacent sensitive receptors. Barriers shall be constructed with a solid material that has a density of at least one pound per square foot with no gaps from the ground to the top of the barrier and be lined on the construction side with acoustical blanket, curtain, or equivalent absorptive material rated STC 32 or higher. The temporary barriers/blankets shall be installed as follows:
  - For landside construction activities occurring near the pier entrance/public plaza, temporary noise barriers/blankets shall be installed around the construction boundaries between the construction work areas and the Skates on the Bay Restaurant and Horseshoe Park located to the north and Shorebird Park located to the east.
  - For construction activities occurring at/near the Seawall Drive parking lot, temporary noise barriers/blankets shall be installed between the construction boundary and Shorebird Park to the north.
  - For construction activities occurring along University Avenue, temporary noise barriers/blankets shall be installed between the construction work areas and the live-aboard boats in the Marina to the north and Shorebird Park and Adventure Playground to the south.
- With approval of the project structural engineer, landside pile holes shall be pre-drilled to minimize the number of impacts necessary to seat the pile, where feasible.
- Pile driving shall be scheduled to have the least impact on nearby live-aboards or houseboats.
- Applicable pile driving noise control devices shall be integrated to the extent feasible to conduct both landside and in-water pile driving. These may include, but are not limited to, shrouding the pile hammer point of impact, by placing resilient padding directly on top of the pile cap, and/or by reducing exhaust noise with a sound-absorbing muffler.
- Alternatives to impact hammers, such as oscillating or rotating pile installation systems, shall be used where possible for landside pile driving.
- At least 10 days prior to the start of construction activities, a sign shall be posted at the construction site, or other conspicuous location, that includes a telephone number, website and email for project information, and a procedure in which a construction manager shall respond to and investigate noise complaints and take corrective action, if necessary, in a timely manner.
- At least 21 days prior to the start of construction activities, businesses and residents (including occupied live-aboard boats) within 500 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the hours when construction would occur, and the overall duration of the construction period. The notification shall include the telephone numbers and email

addresses of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise complaint.

- If a construction noise complaint is registered and if City code enforcement is not available to make noise measurements, the City shall retain a City-approved noise consultant to conduct noise measurements at the properties that registered the complaint. The noise measurements shall be conducted for a minimum of one hour. The consultant shall prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible.
- Prior to the start of and for the duration of construction, the contractor shall properly maintain and tune all construction equipment in accordance with the manufacturer's recommendations to minimize noise emissions.
- Prior to use of any construction equipment, the contractor shall fit all equipment with properly operating mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer.
- Material hauling and deliveries shall be coordinated by the construction contractor to reduce the potential of trucks waiting to unload for protracted periods of time.
- To the extent feasible, hydraulic equipment shall be used instead of pneumatic impact tools, and electric-powered equipment shall be used instead of diesel-powered equipment.
- Stationary noise sources (e.g., generators) shall be located as far from sensitive receptors as practicable, and they shall be muffled and enclosed within temporary sheds, or insulation barriers with a minimum STC rating of 32.
- The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than five minutes. The construction manager shall be responsible for enforcing this.

Level of Significance

Significant and Unavoidable

Groundborne Vibration and Noise Generation

Significance Criterion b:	Would the proposed project result in generation of excessive groundborne vibration or groundborne noise levels?

IMPACT NOI-2 CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT WOULD GENERATE TEMPORARY LEVELS OF GROUNDBORNE VIBRATION IN THE PROJECT AREA; HOWEVER, VIBRATION LEVELS WOULD NOT EXCEED APPLICABLE THRESHOLDS AT NEARBY SENSITIVE RECEPTORS AND CONSTRUCTION VIBRATION IMPACTS WOULD BE LESS THAN SIGNIFICANT. THE PROJECT WOULD NOT GENERATE SUBSTANTIAL LEVELS OF VIBRATION DURING OPERATION; THEREFORE, OPERATIONAL VIBRATION IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Following the methodology discussed above, vibration levels were estimated at nearby sensitive receptors based on the equipment types expected to generate the highest levels of vibration. Vibration levels were calculated based on the closest distance that construction equipment may be

operated relative to nearby sensitive receptors. Estimated vibration levels associated with construction equipment use (i.e., pile drivers, vibratory rollers, and large earthmoving equipment) at the nearest sensitive receptors are presented in Table 3.10-19.

Table 3.10-19 Estimated Vibration Levels at Nearest Sensitive Receptors

Equipment	Primary Location of Equipment	Nearest Sensitive Receptor	Distance to Nearest Sensitive Receptor (feet)	Vibration Level at Nearest Sensitive Receptor (in/sec PPV)	Applicable Vibration Threshold (in/sec PPV)	Exceeds Threshold?
Pile Driver	Along pier	Skates on the Bay Restaurant	215	0.060	0.3	No
Vibratory Roller	Along University Avenue	Marina offices along University Avenue	38	0.112	0.3	No
Large[1] Earthmoving Equipment (e.g., Bulldozer, Backhoe, Excavator, Loader)	Along Seawall Drive and at renovated parking lot	HS Lordships Building	45	0.037	0.3	No

in/sec = inches per second; PPV = peak particle velocity
[1] "Large" equipment in this context refers to equipment rated at 100 horsepower (hp) or more.
Source: Appendix E

As shown in Table 3.10-19, vibration levels generated during construction would vary depending on the equipment to be used and the locations relative to nearby sensitive receptors. Vibration levels generated during construction would not exceed the FTA's recommended threshold of 0.3 in/sec PPV at the nearest commercial structures located near proposed construction activities. Therefore, construction vibration impacts would be less than significant.

Operation

The proposed project would not include substantial sources of vibration during operation (such as railway operations, heavy truck traffic, industrial/heavy machinery activity, etc.). Therefore, vibration impacts associated with operation of the project would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Airport Activity Noise

Significance Criterion c:	For location within the vicinity of a private airstrip or 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 proposed project expose people residing or working in the project area to excessive noise levels?

IMPACT NOI-3 THE PROJECT SITE IS NOT LOCATED WITHIN THE NOISE CONTOURS OF AN AIRPORT LAND USE PLAN OR WITHIN TWO MILES OF A PUBLIC OR PUBLIC USE AIRPORT. THEREFORE, PEOPLE RESIDING AND WORKING IN THE PROJECT AREA WOULD NOT BE EXPOSED TO EXCESSIVE AIRPORT-RELATED NOISE, AND NO AIRPORT ACTIVITY NOISE IMPACT WOULD OCCUR.

Construction and Operation

The airport nearest to the project site is Oakland International Airport, located approximately 11 miles southeast of the project site. According to Figure 3-3 of the Airport Land Use Compatibility Plan[23] prepared for the airport, the project site is not located within any of the noise contours associated with the airport. Therefore, the project would not expose people residing or working in the project area to excessive airport-related noise exposure. Therefore, no construction or operational impact associated with airport activity noise would occur.

Mitigation Measures

No mitigation would be required

Level of Significance

No Impact

3.10.5 Cumulative Impacts

The geographic scope of the cumulative noise analysis is the project site and adjacent areas. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (see Chapter 3.0*, Environmental Impact Analysis*) located in Berkeley in addition to the proposed project.

Construction Noise

Cumulative noise assessment considers development of the project in combination with ambient growth and development projects within the vicinity of the project site. As discussed in Chapter 3, *Environmental Impact Analysis*, there are numerous cumulative projects in the vicinity of the project site. Noise from construction of development projects is typically localized and has the potential to affect noise-sensitive uses within approximately 500 feet from the construction site. Thus, noise from construction activities for two projects within 1,000 feet of each other can contribute to a cumulative noise impact for receptors located midway between the two construction sites. There are ten cumulative projects within 1,000 feet of the project site: the South Cove East Dock Pier Piling Repairs, Replacement of South Cove Middle Dock ADA Gangway Float, South Cove Sailing Basin Seawall Study, Berkeley Waterfront Bike Park Conceptual Design Project, K-Dock Restroom Renovation, South Cove Sailing Basin Dredging Study, N Parking Lot Improvements, South Cove

[23] Alameda, County of. 2010. Oakland International Airport Land Use Compatibility Plan. Available: https://www.acgov.org/cda/planning/generalplans/airportlandplans.htm (accessed June 2025).

West Parking Lot, 199 Seawall Structural Repair Project, and future development associated with the Draft Waterfront Specific Plan (this EIR assumes the maximum development potential). Depending on the types of equipment expected to be used during these cumulative projects and their overall duration of construction, it is possible that construction of these cumulative projects and the Berkeley WTPF Project may occur simultaneously. At 500 feet away, construction of the Berkeley WTPF Project would generate noise levels up to 70 dBA during the loudest phase of construction (i.e., the waterside demolition phase). Conservatively assuming that construction of other cumulative projects may utilize similar equipment and may occur simultaneously, the combined construction noise level due to simultaneous construction activity at the Berkeley WTPF Project site and other cumulative project sites would combine and likely exceed the City's construction noise thresholds, especially at nearby live-aboard boats and open recreation (i.e., parks) spaces. While each cumulative project would be required to comply with the City's construction noise thresholds to the degree feasible, it is possible that construction noise levels may still exceed the City's thresholds due to the quantity of cumulative projects and their close proximities to one another. Therefore, cumulative construction noise impacts are considered to be significant. Even with implementation of Mitigation Measure NOI-1, the proposed project would result in a significant and unavoidable project-level impact. Therefore, the proposed project's contribution to a potentially significant construction-level cumulative noise impact could be significant and unavoidable (if construction of cumulative projects occur at the same time as the Berkeley WTPF Project).

Operational Stationary Noise

Cumulative development would result in stationary (i.e., non-traffic) operational noise increases in the project vicinity. Similar to construction noise, operational noise impacts may occur to sensitive receptors within approximately 500 feet from a project site; therefore, operational noise from two (or more) projects located within 1,000 feet of each other has the potential to result in cumulative noise impacts at receptors located between both project sites. As mentioned above, there are ten cumulative projects located within 1,000 feet of the Berkeley WTPF Project site; however, the majority of these cumulative projects would involve assessment and/or repair of deteriorating facilities and would not include substantial stationary operational noise sources once completed. Future development associated with the Draft Waterfront Specific Plan (this EIR assumes the maximum development potential) would include commercial redevelopment and may include stationary noise sources such as HVAC (or similar mechanical) equipment. However, individual development projects would be required to comply with applicable provisions of the Berkeley Municipal Code to maintain noise levels below the City's noise thresholds. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to stationary operational noise impacts from mechanical equipment.

In addition, the proposed project would result in potential noise from amplified sound during special events. Based on review of existing information of cumulative projects, none of the other cumulative projects identified in Chapter 3 are expected to include programming that would require amplified noise. Because there are no other cumulative projects that could generate amplified noise, there would be no cumulative impact related to stationary operational noise impacts from amplified noise due to special events.

Operational Mobile Noise

Cumulative development in the project vicinity would generate increased noise levels due to mobile (i.e., roadway vehicles) sources along segments of University Avenue in the vicinity of the proposed project. Cumulative (project plus other cumulative projects) ADT volumes would increase existing roadway vehicle volumes by between 3,798 and 10,998 vehicles depending on the segment of University Avenue.[24] Please note that this cumulative development scenario assumes the implementation of the maximum development potential in the Draft Waterfront Specific Plan.

The greatest cumulative increase in roadway vehicle noise would occur on the segment between Seawall Drive and Marina Boulevard, which would experience an ADT increase of 3,798 vehicles over existing conditions. This ADT increase would result in a noise increase of 5.5 dBA CNEL and exceed the significance threshold of 5 dBA CNEL. Cumulative noise increases on all other segments of University Avenue would range from 1.2 to 2.1 dBA CNEL, which would not exceed the 5 dBA CNEL significance threshold and would be considered less than significant cumulative impacts.

Along the stretch of University Avenue, between Seawall Drive and Marina Boulevard, the closest sensitive receptors would be people using Shorebird Park. This would represent a significant cumulative impact. Please see below for a summary of the ADT calculations:

- Cumulative conditions (i.e., proposed project plus cumulative projects): 5,269 ADT
- Cumulative conditions without the project: 4,142 ADT
- Background conditions (i.e., existing conditions without the project): 1,471 ADT

The calculations above are conservative and do not account for reductions in roadway vehicle trips associated with Transportation Demand (TDM). The proposed project includes TDM strategies that would reduce the number of vehicle trips to the project site. The project includes enhanced bicycle facilities and secure bike parking; improved bicycle and pedestrian access including a two-way cycle track along University Avenue and Bay Trail improvements; designated pick-up and drop-off zones; and wayfinding that would direct visitors to appropriate parking lots. As documented in the Berkeley TDM Plan and based on information from the California Air Pollution Control Officer Association Handbook for Analyzing Greenhouse Gas Emission Reductions, these TDM strategies could reduce the number of roadway vehicle trips by approximately 64 to 130.[25,26] Even with the reductions from TDM strategies included as part of the project, cumulative noise impacts would still be considered significant (5.5 with the reduction of 64 trips and 5.4 with the reduction of 130 trips).

Other typical mitigation strategies, such as construction of a soundwall would introduce new environmental impacts that would make them infeasible, change the character of parks, and would be inconsistent with Policy OS-12 of the General Plan, which states the following: “ensure that land adjacent to parks is sensitively developed so that shade on the park is minimized, safe access is maintained, and views are not significantly reduced.” No feasible mitigation strategies to reduce roadway vehicle noise impacts have been identified.

If the proposed project were not implemented, then the increase in noise levels along the stretch of University Avenue, between Seawall Drive and Marina Boulevard, would be approximately 4.5 dBA (assuming an increase of ADT from 1,471 to 4,142) and would not exceed the significance threshold.

[24] See Appendix E of this EIR.
[25] Berkeley, City of. 2024. Draft Waterfront Specific Plan for the City of Berkeley Public Tidelands Area. Available: https://berkeleyca.gov/sites/default/files/documents/BWSP_Draft_2024-11-08.pdf (accessed September 2024).
[26] Table 6 of the City’s TDM Plan identifies that TDM would reduce the demand for parking by 32 to 65 parking spaces. Thus, the number of trips associated with these parking spaces would be double the parking spaces demand reduction (i.e., going to and from the project site).

Other cumulative projects would contribute far more to cumulative noise impacts than the proposed project. However, since the proposed project would contribute to exceeding the significance threshold of 5 dBA, the project's contribution to the cumulative operational mobile noise impacts on the segment of University Avenue between Seawall Drive and Marina Boulevard would be relevant. Therefore, cumulative operational mobile noise impacts would be significant and unavoidable.

Groundborne Vibration and Noise

Although there could be other cumulative projects simultaneously under construction near the proposed project, the potential for groundborne vibration impacts during construction is within relatively close distances (e.g., within approximately 25 feet for a vibratory roller) due to the fact that groundborne vibration levels attenuate rapidly through the ground. The nearest cumulative project is the 199 Seawall Structural Repair Project, which is located south of the Seawall Drive parking lot, where parking lot improvements as part of the Berkeley WTPF project would occur. The nearest construction activities associated with both projects may occur approximately 60 feet from one another. At this distance, vibration impacts are not expected; therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to construction and operational vibration impacts.

Overall Level of Cumulative Significance

Significant and Unavoidable (due to temporary construction-related and operational mobile noise)

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3.11 Recreation

3.11.1 Introduction

This section describes the existing conditions related to recreation, parks, and open space within and proximate to the project site as well as the relevant regulatory frameworks. This section also evaluates potential impacts related to recreation, parks, and open space that could result from implementation of the proposed project. Information in this section is based on details about recreation, parks, and open space from the City of Berkeley Parks, Recreation, and Waterfront Department; the California Department of Parks and Recreation (i.e., State Parks); the Metropolitan Transportation Commission (MTC); and the Bay Conservation and Development Commission (BCDC).

3.11.2 Environmental Setting

Recreation Definitions

Open space is a broad term for undeveloped land that provides public access, while a park is a specific type of open space that is developed for recreation and leisure activities. Parks can include playgrounds, sports fields, and paved paths, whereas open spaces can be more natural and less developed areas like forests, farms, or grasslands. Both open space and parks can be publicly owned and operated by a city, a regional jurisdiction, the State, or the federal government. A recreational facility is a specific, human-made structure or area designed for a particular recreational activity and can include elements such as parks and picnic sites, pathways and trails, boating docks, community and nature center buildings, sports courts and swimming pools, among other elements.

Citywide Parks and Recreation Facilities

The Berkeley Parks, Recreation, and Waterfront Department administers recreation center programs and maintains the parks, waterfront, and urban forest within City limits. The Berkeley Parks, Recreation, and Waterfront Department maintains 52 parks (and associated buildings, parking lots, and play areas); 21 turf medians; 75 developed paths; 40 undeveloped paths; and the Berkeley Marina.[1] There are approximately 310 acres of parkland that are managed by the City of Berkeley.[2]

In addition to the public parkland managed by the Parks Divisions, Berkeley contains portions of regional and State parks in the form of the 1,833-acre McLaughlin Eastshore State Park, the 2,079-acre East Bay Regional Park District Tilden Regional Park, and the 208-acre Claremont Canyon Regional Preserve. Including these additional regional and State parklands, total area of parks and open space within City limits available to the public is approximately 4,430 acres. There are no federal park areas or recreational facilities within City limits. The combination of Berkeley, regional, and State parkland located within City limits corresponds to a park acres-to-persons ratio of approximately 34.5 acres per 1,000 people.[3,4] All parks within City limits are shown in Figure 3.11-1, while parks within and adjacent to the project site are shown in Figure 3.11-2.

[1] Berkeley, City of. 2002. Berkeley General Plan. Open Space and Recreation Element. Available: https://berkeleyca.gov/sites/default/files/documents/08_Open%20Space%20and%20Recreation%20Element-FINAL.pdf (accessed October 2025).
[2] Berkeley Parks, Recreation, and Waterfront Department. 2025. Parks. https://berkeleyca.gov/community-recreation/parks-recreation/parks (accessed April 2025).
[3] 34.5 parks per 1,000 people = 4,430 acres / 128,348 population * 1,000 people.
[4] California Department of Finance. 2025. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2025 with 2020 Benchmark. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/ (accessed July 2025).

Figure 3.11-1 City of Berkeley Parks



Imagery provided by Microsoft Bing and its licensors © 2026.
Additional data provided by City of Berkeley, 2024.

23-15427 EPS Rec
Fig X Parks in Berkeley

Figure 3.11-2 Berkeley and State Parks Adjacent to and Within the Project Site[5]



[5] Metropolitan Transportation Commission. 2025. Bay Trail Interactive Map. Available: https://mtc.ca.gov/operations/regional-trails-parks/san-francisco-bay-trail/bay-trail-interactive-map (accessed December 2025).

Berkeley and State Park Facilities Within the Project Site

Berkeley Municipal Pier

The Berkeley Municipal Pier was constructed as an elevated causeway for automobiles to access ferry service to San Francisco in 1926 by the Golden Gate Ferry Company (see Figure 3.11-2). When the Bay Bridge was completed in 1937, most ferry service operations in the Bay area ended, and the causeway was formally abandoned to the City. The City then operated the causeway as a public fishing pier until 2015, when it closed due to structural deterioration.[6] The Berkeley Pier extends west into the Bay in the western portion of the project site but is currently closed to the public due to safety concerns. The Berkeley Municipal Pier was not operational nor accessible by the public at the time of the EIR Notice of Preparation.

Shorebird Park

Shorebird Park is a 6.17-acre park managed by the City of Berkeley (see Figure 3.11-2). The park is located in the Berkeley Waterfront area within the southern portion of the project site. This facility features a grassy picnic area, a shoreline area with a beach, vistas of the Bay, children's play areas, Adventure Playground, a Nature Center, multi-use trails, and a public restroom.[7] Recreation activities within Shorebird Park primarily include picnicking, play structures for children, shoreline beach access, a Nature Center, as well as running, walking, and cycling through the Park.

Berkeley and State Park Facilities Adjacent to the Project Site

San Francisco Bay Trail (Including Bay Trail Extension)

The San Francisco Bay Trail (Bay Trail) is a 500-mile walking and cycling path around the entire San Francisco Bay, running through all nine Bay Area counties, 47 cities, and across seven toll bridges. Existing portions of the Bay Trail run along the San Francisco Bay, San Pablo Bay, and associated rivers and estuaries from Petaluma and Napa in the north to Santa Clara and San Jose in the south.[8]

The main spine of the San Francisco Bay Trail is intended as a continuous recreational corridor encircling the Bay along the shoreline. Where the spine trail does not follow the shoreline, spur trails provide access from the spine to points of interest along the shoreline.[9] In 2003, Berkeley City Council adopted a Design Plan and an Initial Study/Mitigated Negative Declaration (IS-MND) for the Berkeley Bay Trail Extension, which is a spur trail to provide access between the Bay Trail and the Berkeley Waterfront.[10] As of 2024, certain portions of the Bay Trail Extension, owned and managed by the City of Berkeley, have been constructed, and others are in the planning stages. These constructed segments start at West Frontage Road and run westward on the south side of

[6] Berkeley, City of. 2024. Draft Waterfront Specific Plan for the City of Berkeley Public Tidelands Area. Available: https://berkeleyca.gov/sites/default/files/documents/BWSP_Draft_2024-11-08.pdf (accessed September 2024).
[7] Berkeley, City of. 2026. Parks and Recreation. *Shorebird Park.* *https://berkeleyca.gov/community-recreation/parks-recreation/parks/shorebird-park*https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley Parcels;Recreation (accessed February 2026).
[8] Metropolitan Transportation Commission. 2025. Bay Trail Interactive Map. Available: https://mtc.ca.gov/operations/regional-trails-parks/san-francisco-bay-trail/bay-trail-interactive-map (accessed December 2025).
[9] MTC. Bay Trail Plan. https://mtc.ca.gov/sites/default/files/documents/2021-10/San-Francisco-Bay-Trail-Bay-Trail-Plan-Summary.pdf (accessed September 2024).
[10] Berkeley Department of Parks, Recreation and Waterfront. 2004. Bay Trail Extension to the Berkeley Marina. *Design Plan and Final Initial Study/Mitigated Negative Declaration.* Prepared November 2003. Adopted January 27, 2004 (Resolution No. 62,375-N.S.).

University Avenue, terminating at Adventure Playground, where an existing pedestrian path continues westward. Figure 3.11-2 shows the portions of the trail that have been completed at the time of the EIR Notice of Preparation.

Recreation activities within the constructed Bay Trail Extension segments primarily include running, walking, dog walking, sightseeing, and cycling. The 2003 Berkeley Bay Trail Design Plan includes additional Bay Trail Extension segments around the remaining southern shoreline of Shorebird Park and around the western shoreline of the Berkeley Waterfront Area adjacent to the Berkeley Municipal Pier and Seawall Drive. The Bay Trail Gap Closure Implementation Plan was completed by the Metropolitan Transportation Commission in July 2024 and includes additional Bay Trail segments around the Berkeley Waterfront.

Berkeley Marina Basin

The Berkeley Waterfront is an approximately 125-acre area west of I-80 in the City of Berkeley. The Berkeley Marina Basin refers to a subset of the Berkeley Waterfront north of the project site that includes the main boat harbor with approximately 1,000 recreational boat slips (see Figure 3.11-2). In 1937, Berkeley built the original yacht harbor (i.e., the Marina Basin) in the Waterfront area. In the 1960s, the City participated in regional planning efforts to develop an East Bay Shoreline for recreation and public access. During this period, the City decided to re-develop the existing yacht harbor of 1937 into the modern Berkeley Marina Basin that exists today.[11] The predominant activity at the Berkeley Marina Basin Main Harbor involves the operation of boat slips for up to 1,000 recreational sailboats, as well as other activities such as dinner cruises, commercial charter boats for sightseeing and fishing, sailing lessons and dragon boat canoe racing.

Marina Mall

The Marina Mall is a small 0.26-acre facility managed by the City of Berkeley (see Figure 3.11-2). The Mall is located in the Berkeley Waterfront area, north of the project site. The Marina Mall consists of a landscaped area located to the south of the City's Marina office. The Mall sees a small amount of use for sightseeing and occasional sitting and picnicking.[12]

Horseshoe Park

Horseshoe Park is a 0.7-acre greenspace maintained by the City of Berkeley, located in the Berkeley Waterfront area, approximately 200 feet north of the project site (see Figure 3.11-2). This park features a lawn, picnic table and benches, bike racks, access to the internal Marina Basin pathway, and vistas of the Marina Basin.[13] This park facility is primarily used for picnicking and sightseeing.

César E. Chávez Park (formerly North Waterfront Park)

César E. Chávez Park is a 90-acre park managed by the City of Berkeley located in the Berkeley Waterfront approximately 0.4 miles north of the project site (see Figure 3.11-2). The City of Berkeley

[11] Berkeley, City of. 2024. Draft Waterfront Specific Plan for the City of Berkeley Public Tidelands Area. Available: https://berkeleyca.gov/sites/default/files/documents/BWSP_Draft_2024-11-08.pdf (accessed September 2024).
[12] Berkeley, City of. 2024. Parks and Recreation. *Marina Mall.* *https://berkeleyca.gov/community-recreation/parks-recreation/parks/marina-mall*https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley Parcels;Recreation (accessed September 2024).
[13] Berkeley, City of. 2026. Parks and Recreation. *Horseshoe Park.* *https://berkeleyca.gov/community-recreation/parks-recreation/parks/horseshoe-park*https://berkeleyca.gov/community-recreation/parks-recreation/parks/shorebird-parkhttps://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley Parcels;Recreation (accessed February 2026).

historically operated the location as the Berkeley Landfill on public tidelands on the north side of the Berkeley Marina Basin. From 1981 to 1991, the Landfill was filled in, capped, and opened to the public as North Waterfront Park. This area was renamed César E. Chávez Park in 1994.[14] This facility features walking trails, the 1.25-mile wheelchair accessible perimeter trail, an off-leash dog park, protected nature area, picnic areas, and wildlife viewing areas.[15] The Park is used for recreation pursuits such as dog walking, picnicking, caretakers with strollers, pedestrians, kite and hobby airplane-flying, nature viewing, and running and cycling.

McLaughlin Eastshore State Park

McLaughlin Eastshore State Park is a 1,833-acre facility managed by the East Bay Regional Park District, located east of the project site (see Figure 3.11-2). The park extends approximately 8.5 miles along the eastern shoreline of San Francisco Bay, from the Oakland Bay Bridge north to the Marina Bay neighborhood in the city of Richmond and includes uplands and tidelands along the waterfronts of the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. This park includes a variety of features providing opportunities for diverse recreational activities, including hiking, dog walking, cycling, bird watching, sightseeing, sailing, kayaking, windsurfing, and fishing.

Publicly accessible portions of the McLaughlin Eastshore State Park are accessed through a trail network and along the shoreline. In Berkeley, an existing parking lot located southwest of the University Avenue and Frontage Road intersection (the Brickyard Cove Lot), south of the project site, provides access to the southern trail network and shoreline. The parking lot is accessible from both University Avenue and Frontage Road. Visitors can access the Berkeley Meadow and the portion of McLaughlin Eastshore State Park located immediately north of the project site, at the Virginia Street Extension pathway and entrances at Marina Boulevard and University Avenue at Frontage Road. Recreation activities include running and walking. Other popular activities include sightseeing, nature viewing, and photography.

South Sailing Basin

The South Sailing Basin, located immediately south and southeast of project site is identified as a Water/Recreational use in the Marina Master Plan (see Figure 3.11-2). [16] Three public docks, located south of University Avenue and south of the sailing club facilities, and south of the project site provide public access to the water for small boats (sail, windsurf, wing, kayak, canoe, paddleboard, etc.) and swimming. The Cal Sailing Club and the Cal Adventures Center utilize the public access docks for sailing and other water recreation activities in the South Sailing Basin.

San Francisco Bay

The San Francisco Bay is a tidal estuary that provides a variety of natural resource and open space opportunities (see Figure 3.11-2). According to the BCDC San Francisco Bay Plan, the San Francisco Bay is the most important open space in the Bay region, and it provides a variety of unique recreational opportunities. Primary recreation activities occurring throughout the San Francisco Bay include sailing, kayaking, paddle-boarding, swimming, windsurfing, kitesurfing, canoeing and dragon

[14] Berkeley, City of. 2024. Draft Waterfront Specific Plan for the City of Berkeley Public Tidelands Area. Available: https://berkeleyca.gov/sites/default/files/documents/BWSP_Draft_2024-11-08.pdf (accessed September 2024).
[15] Berkeley, City of. 2026. Parks and Recreation. *César Chávez Park. https://berkeleyca.gov/community-recreation/parks-recreation/parks/cesar-chavez-park* (accessed February 2026).
[16] Berkeley, City of. 2003. Berkeley Marina Master Plan. https://berkeleyca.gov/sites/default/files/2022-02/Berkeley-Marina-Master-Plan-1.pdf (accessed September 2024).

boat canoeing. Additional recreation activities on the Bay include wildlife viewing, fishing and boating via public ferry, private and charter boats.

The Berkeley Waterfront area provides public access and launch points for most of the popular water recreation activities occurring in the San Francisco Bay. There are two formal watercraft launch locations at the Berkeley Waterfront: public docks in the South Sailing Basin (south of the project site) and the Boat Launch Ramp on the north side of the Berkeley Marina Basin (north of the project site). The public docks in the South Sailing Base are used to launch small watercraft such as kayaks, canoes, stand-up-paddle boards, and windsurfing/foiling craft. The Boat Launch Ramp on the north side of the Berkeley Marina Basin is used primarily to launch larger motorized watercraft.

Sailing is one of the most popular recreational activities within this area of the Bay. Sailors launch from the Berkeley Marina Basin and travel west throughout the Bay or from South Sailing docks and travel throughout the South Sailing Cove. The Berkeley Marina Basin is the largest public recreational marina in northern California with 1,000 berths.

Windsurfers, wingers, swimmers, paddleboarders, and kayakers launch from the South Sailing docks or Shorebird Beach for access throughout the South Sailing Cove and beyond. An un-improved rocky shoreline at the southernmost point of the 199 Seawall peninsula is used by some swimmers and windsurfers/wingers, primarily when low tides make launching from the South Cove undesirable due to shallow water and exposed mudflats. According to Berkeley Municipal Code Section 6.20.180, *Prohibited activities,* swimming, bathing, windsurfing, and wading is prohibited within the City jurisdictional waters except for the South Sailing Basin (including the Shorebird Park Beach and the sailing docks), and no personal watercraft of any kind may be operated within 1,500 feet of the Berkeley Pier.

Additional Facilities

There are additional facilities near the project site, including a hotel, three restaurants, a bait shop for fishing gear, and the Marine Center Boat Repair Yard. Although not explicitly recreational, these establishments attract visitors to the Berkeley Waterfront who may recreate during their visit. Patronage at these facilities generates revenue that is used to operate Waterfront facilities, including recreational facilities.

3.11.3 Regulatory Framework

Federal Regulations

United States Department of Transportation (U.S. DOT) Act, Section 4(f)

Section 4(f) of the United States Department of Transportation (U.S. DOT) Act of 1966 mandates the protection of publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic sites from adverse impacts of transportation projects. This provision requires that any project funded or approved by the U.S. DOT must avoid using these protected properties unless there is no feasible and prudent alternative. If avoidance is not possible, the project must minimize harm and undertake all possible planning to mitigate impacts. Section 4(f) requires that transportation projects in California and across the United States consider and preserve valuable recreational resources. This regulation would only apply should implementation of the project involve federal funding.

Land and Water Conservation Fund (LWCF) Act, Section 6(f)

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 provides protections for parks and recreation areas funded through LWCF grants. This provision requires that any property acquired or developed with LWCF assistance must remain dedicated to public outdoor recreation use. If a conversion to non-recreational use is proposed, it requires approval from the Secretary of the Interior and the substitution of other recreation properties of at least equal fair market value and equivalent usefulness. This provision requires that investments in recreational spaces are preserved, maintaining the availability and quality of these areas for public enjoyment across the United States. This regulation would only apply should implementation of the project involve federal funding.

State Regulations

McAteer-Petris Act

The McAteer-Petris Act, enacted in 1965, established the San Francisco Bay Conservation and Development Commission (BCDC) to address public concerns about the future of San Francisco Bay. The Act empowers BCDC to regulate development and fill within the Bay, requiring that changes promote public access and recreational opportunities. This provision mandates comprehensive planning through the San Francisco Bay Plan, which includes requirements for parks and recreational areas to enhance public enjoyment of the Bay. Additionally, the Act empowers BCDC to issue and deny permits for projects within its jurisdiction, balancing development projects with environmental preservation and public access.

Quimby Act (California Government Code Section 66477)

The Quimby Act allows cities and counties to adopt park dedication standards/ordinances when requiring developers to set aside land, donate conservation easements, or pay fees towards parkland when property is subdivided.

Regional and Local Regulations

BCDC San Francisco Bay Plan

The San Francisco Bay Plan, developed by BCDC, serves as a comprehensive framework for managing the Bay and its shoreline. The Plan emphasizes the importance of preserving and enhancing public access to the Bay, including the development of parks, marinas, beaches, and fishing piers. It aims to balance environmental preservation with recreational opportunities, ensuring that the Bay remains a valuable natural asset for both current and future generations. By guiding development and conservation efforts, the Plan supports the creation of recreational spaces that contribute to the overall quality of life in the Bay Area. The BCDC San Francisco Bay Plan includes the following policies related to recreation and public access:

- **Transportation Policy 4:** Transportation projects on the Bay shoreline and bridges over the Bay or certain waterways should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails. Transportation projects should be designed to maintain and enhance visual and physical access to the Bay and along the Bay shoreline.
- **Transportation Policy 5:** Ferry terminals should be sited at locations that are near navigable channels, would not rapidly fill with sediment and would not significantly impact tidal marshes,

tidal flats or other valuable wildlife habitat. Wherever possible, terminals should be located near higher density, mixed-use development served by public transit. Terminal parking facilities should be set back from the shoreline to allow for public access and enjoyment of the Bay.

- **Recreation Policy 1:** Diverse and accessible water-oriented recreational facilities, such as marinas, launch ramps, beaches, and fishing piers, should be provided to meet the needs of a growing and diversifying population, and should be well distributed around the Bay and improved to accommodate a broad range of water-oriented recreational activities for people of all races, cultures, ages and income levels.
- **Recreation Policy 3**: Recreational facilities, such as waterfront parks, trails, marinas, live-aboard boats, non-motorized small boat access, fishing piers, launching lanes, and beaches, should be encouraged and allowed by the Commission, provided they are located, improved and managed consistent with the following standards:
  - **Recreation Policy 3A-2:** General Recreational facilities should not pre-empt land or water area needed for other priority uses, but efforts should be made to integrate recreation into such facilities to the extent that they are compatible.
  - **Recreation Policy 3A-7:** Access to marinas, launch ramps, beaches, fishing piers, and other recreational facilities should be clearly posted with signs and easily available from parking reserved for the public or from public streets or trails.
  - **Recreation Policy 3B-4:** Marinas should include public amenities, such as viewing areas, restrooms, public mooring docks or floats and moorages for transient recreational boaters, non-motorized small boat launching facilities, public parking; substantial physical and visual access; and maintenance for all facilities.
  - **Recreation Policy 3H:** Water-oriented commercial recreational establishments, such as restaurants, specialty shops, private boatels, recreational equipment concessions, and amusements, should be encouraged in urban areas adjacent to the Bay. Public docks, floats or moorages for visiting boaters should be encouraged at these establishments where adequate shoreline facilities can be provided. Effort should be made to link commercial recreation centers and waterfront parks by ferry or water taxi.
- **Recreation Policy 4:** To assure optimum use of the Bay for recreation, the following facilities should be encouraged in waterfront parks.
  - **Recreation Policy 4A-2**: To capitalize on the attractiveness of their bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, swimming, environmental, historical and cultural education and interpretation, viewpoints, beaches, and fishing facilities.
  - **Recreation Policy 4A-6:** Trails that can be used as components of the San Francisco Bay Trail, the Bay Area Ridge Trail or links between them should be developed in waterfront parks. San Francisco Bay Trail segments should be located near the shoreline unless that alignment would have significant adverse effects on Bay resources; in this case, an alignment as near to the shore as possible, consistent with Bay resource protection, should be provided.
  - **Recreation Policy 4A-7**: Bus stops, kiosks and other facilities to accommodate public transit should be provided in waterfront parks to the maximum extent feasible. Public parking should be provided in a manner that does not diminish the park-like character of the site. Traffic demand management strategies and alternative transportation systems should be

developed where appropriate to minimize the need for large parking lots and to ensure parking for recreation uses is sufficient.

- **Recreation Policy 9:** Ferry terminals may be allowed in waterfront park priority use areas and marinas and near fishing piers and launching lanes, provided the development and operations of the ferry facilities do not interfere with current or future park and recreational uses, and navigational safety can be assured. Terminal configuration and operation should not disrupt continuous shoreline access. Facilities provided for park and marina patrons, such as parking, should not be usurped by ferry patrons. Shared parking arrangements should be provided to minimize the amount of shoreline area needed for parking.
- **Public Access Policy 4:** Public access should be sited, designed and managed to prevent significant adverse effects on wildlife. To the extent necessary to understand the potential effects of public access on wildlife, information on the species and habitats of a proposed project site should be provided, and the likely human use of the access area analyzed. In determining the potential for significant adverse effects (such as impacts on endangered species, impacts on breeding and foraging areas, or fragmentation of wildlife corridors), site specific information provided by the project applicant, the best available scientific evidence, and expert advice should be used.
- **Public Access Policy 6:** Public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding.
- **Public Access Policy 10:** Access to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available.
- **Public Access Policy 11:** Roads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.
- **Appearance, Design, and Scenic Views Policy 4:** Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline. However, some small parking areas for fishing access and Bay viewing may be allowed in exposed locations.
- **Berkeley Waterfront – César Chávez Park:** Preserve marina, beach, small boat launch, windsurfing access, fishing pier, interpretive center and multi-use trails. Possible ferry terminal. Allow if compatible with park and marina use; serve with bus public transit to reduce traffic and parking needs. Provide signage regarding fish consumption advisories for anglers.
- **Eastshore State Park:** Develop park from Bay Bridge to Marina Bay in Richmond for multiple uses, including recreation, wildlife and aquatic life protection. Protect wildlife and aquatic life values at sites such as Emeryville Crescent, Hoffman Marsh and Albany Mudflats. Provide signage regarding fish consumption advisories for anglers.

BCDC Regional Shoreline Adaptation Plan

The BCDC Regional Shoreline Adaptation Plan was adopted in December 2024. This Plan includes a One Bay Vision that "paints the big-picture goals of what successful adaptation for the Bay shoreline could look like" and addresses Public Access and Recreation.[17] The Plan identifies the following adaptation strategy standard for Public Access and Recreation:

- Along the Bay shoreline, provide maximum feasible public access that maintains, increases, and/or enhances existing access and preserves or improves the connectivity of regionally-significant waterfront parks, beaches, and trails across jurisdictional boundaries. Plan for a continuous San Francisco Bay Trail along the shoreline, including maintaining existing trail segments and completing planned segments to expand connections to other trail networks, including Water Trail sites, and public transportation. Public access should be compatible with Baylands habitat needs. In locations that currently have limited to no shoreline access, particularly in or near socially vulnerable and/or Environmental Justice communities, expanding safe and reliable connections to public access should be prioritized. Ensure public access will be resilient or have the capacity to adapt to changing shoreline conditions. Include how coordination with neighboring jurisdictions will occur to maintain future public access connectivity as strategies are implemented and adjusted over time.

The Plan also identifies Strategic Regional Priorities, including for Connected Regional Shoreline Access. At the project site, the existing and proposed portions of the Bay Trail and the two existing launch points for the Water Trail are identified as regionally significant. The Plan also describes how cities and counties will develop their Subregional Shoreline Adaptation Plans. A Subregional Shoreline Adaptation Plan has yet to be adopted.

MTC Bay Trail Gap Closure Implementation Plan

The Bay Trail Gap Closure Implementation Plan sets priorities for future work to complete the vision of the San Francisco Bay Trail—an interconnected system of on- and off-street trails circumnavigating San Francisco and San Pablo Bays. The purpose of the Bay Trail Gap Closure Implementation Plan is to identify and evaluate segments of the Bay Trail and connector trails that are currently missing (i.e., trail gaps) in order to prioritize their design and construction as the full build-out of the Bay Trail is implemented.[18] At the project site, the portion of the Bay Trail that has not been completed is labeled as Segment ID 4151.[19] Please note that a portion of this planned Bay Trail would be constructed as part of the Project. The Plan provides a priority score, to help decision makers in identifying projects which present the greatest priority with the lowest cost and those which require greater levels of funding. Segment ID 4151 is identified as Tier 1 (i.e., Higher Priority and Lower Cost), has a priority score of 9.69, and is ranked 3rd out of 41 Tier 1 Segment.

[17] BCDC. 2024. Regional Shoreline Adaptation Plan. Available: https://www.bcdc.ca.gov/wp-content/uploads/sites/354/2024/11/Appendix-B-Regional-Shoreline-Adaptation-Plan-spread.pdf (accessed October 2025).
[18] MTC. 2024. Bay Trail Gap Closure Implementation Plan. Available: https://mtc.ca.gov/sites/default/files/documents/2024-08/BTGCIP_Report_08_27_2024.pdf (accessed October 2025).
[19] MTC. 2024. Bay Trail Gap Closure Implementation Plan Prioritization 2024. Available: https://experience.arcgis.com/experience/817c5f3b503848deb44e83d337285fd6/#data_s=id%3AdataSource_2-1926f97382d-layer-15%3A4 (accessed October 2025).

Berkeley General Plan

OPEN SPACE AND RECREATION ELEMENT

The Berkeley General Plan Open Space and Recreation Element include policies aimed at enhancing parks and recreational facilities to meet the diverse needs of the community.

The Berkeley General Plan Open Space and Recreation Element states the following: "Since 1977, the City has made significant increases in the amount and type of open space available to Berkeley citizens. Berkeley has more than doubled its total parks acreage, from 110 to 230 total acres since 1977. As a result, the community achieved its 1977 Master Plan goal of two park acres per 1,000 people, more than double the acres-to-persons ratio of 1977." The City of Berkeley's recreational facilities per capita ratio is two park acres per 1,000 people.

Relevant policies and actions include:

Policy OS-1 Preservation.

Existing open space and parks shall be maintained and preserved for public park and open space use.

Policy OS-2 Maintenance, repair, and enhancements.

Within the context of open space resource allocations, give highest priority to maintaining and improving the City's existing network of open space and recreation facilities. Actions:

A. Improve access for the disabled to park and open space facilities.
B. Regularly maintain and restore park landscaping.
C. Establish a plan for the existing infrastructure at the Berkeley Marina, including maintenance and replacement of docks, piers, bulkheads, dry dock storage areas, restrooms, and utility systems (water, sewage, electricity, etc.), and dredging to maintain adequate marina depth.

Policy OS-4 Working with Other Agencies.

Work with the Berkeley Unified School District, the University of California, the East Bay Municipal Utility District, and the East Bay Regional Park District to improve, preserve, maintain, and renovate their open space and recreation facilities.

Policy OS-6 New Open Space and Recreational Resources.

Create new open space and recreational resources throughout Berkeley. Actions:

A. Identify and prioritize open space expansion opportunities in neighborhoods that are underserved or not easily accessible to existing park and recreational facilities.
B. Establish spaces for art, music, and cultural activities.

Policy OS-10 Access Improvements.

Improve transit, bicycle, disabled, and pedestrian access to and between open space and recreation facilities such as the Berkeley Marina, University of California open space, East Bay Regional Park District lands, the Eastshore State Park, and recreational facilities in other cities.

A. Develop and maintain a citywide pedestrian and bicycle network that links open space and recreation facilities with bicycle and walking paths along tree-lined streets, publicly owned pathways, creeks, and other greenways.
B. Increase shuttle and weekend transit service and weekend street closures to improve access to recreational and open space.
C. Continue to improve pedestrian and bicycle access to the waterfront and Berkeley Marina.

Policy OS-11 Public Spaces.

Encourage innovative use of public plazas, sidewalks, and temporary street closures as open space or for recreational or cultural events**.** Actions:

A. Design and improve public streets, parking lots, and plazas to provide public spaces for street fairs, festivals, and other gatherings.

Policy OS-14 Regional Open Space.

Coordinate with regional open space agencies such as the East Bay Regional Park district, neighboring cities, and private sector and nonprofit institutions to maintain, improve, and expand the region's open space network.

Berkeley Waterfront Specific Plan

The City of Berkeley Waterfront Specific Plan, adopted in 1986, establishes the waterfront as an area primarily for recreational, open space, and environmental uses, with preservation and enhancement of beaches, marshes, and other natural habitats. The Plan area consists of 170 acres of land bounded by I-80 to the east, the Berkeley Marina on the west, and the Albany and Emeryville City limits to the north and south.[20] The project site generally is not within the 170 acres of land included in the 1986 City of Berkeley Waterfront Specific Plan, with the possible exception of the underground conduit that would be installed along University Avenue and Frontage Road.

Berkeley Municipal Code

The City of Berkeley Municipal Code includes several chapters that govern parks and recreation. Chapter 6.20, titled "Marina Rules and Regulations," describes the management and operational guidelines for the Berkeley Marina, including definitions, permit requirements, and rules for vessel berthing and usage. Chapter 6.32, "Parks and Public Pathways--Use Restrictions," establishes regulations for park hours, permissible activities, noise control, and vehicle operation within park boundaries. Chapter 6.36, "Recreation and Park Facilities--Rules, Regulations and Rental Charges," details the procedures for renting park facilities, setting fees, and maintaining safety and cleanliness. Chapter 21.36.060, "Land dedication or in lieu fees for park or recreation purposes" aligns with the Quimby Act discussed above, by requiring land dedication or in-lieu fees for park or recreation purposes, ensuring that new subdivisions contribute to the development and rehabilitation of recreational facilities to serve their residents.

[20] Berkeley, City of. 1986. Waterfront Master Plan. Available: https://berkeleyca.gov/your-government/our-work/adopted-plans/waterfront-master-plan (accessed May 2025).

Eastshore State Park General Plan

The Eastshore State Park General Plan, approved in 2002, establishes policies aimed at conserving natural resources while providing diverse recreational opportunities along the Berkeley waterfront. The Plan emphasizes the protection of tidal marshes, mudflats, and upland areas created by fill placement, ensuring these habitats are preserved for wildlife and ecological health. It promotes recreational activities such as hiking, biking, bird watching, and other day-use activities, enhancing public access and enjoyment of the shoreline. Additionally, the Plan supported the development of the San Francisco Bay Trail, which links various parts of the park, facilitating continuous access and connectivity.

Berkeley Marina Master Plan

The Berkeley Marina Master Plan, adopted in 2003, establishes policies aimed at enhancing recreational opportunities and preserving open spaces along the Berkeley waterfront. The Plan emphasizes the importance of replacing and remodeling existing commercial and non-profit facilities while considering limited expansion on a case-by-case basis. It advocates for the enhancement of open spaces and recreational areas, promoting activities such as boating, fishing, and waterfront access. The Plan also prioritizes the protection of wildlife habitats and addresses the future viability of the Marina through specific improvement projects and capital needs assessments.

Berkeley Bay Trail Extension Master Plan

The Berkeley Bay Trail Extension Master Plan, adopted in 2004, plans the development of a shared-use trail along the Berkeley waterfront. The plan aims to enhance public access and recreational opportunities by extending the Bay Trail approximately 1.2 miles from West Frontage Road to the Berkeley Yacht Club. It includes measures to improve safety, aesthetics, and connectivity for trail users, while mitigating potential environmental impacts. The project supports diverse recreational activities such as biking, walking, and waterfront access, contributing to the overall enhancement of parks and recreation in the area.

3.11.4 Impacts Analysis

Significance Thresholds

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Recreation.

Would the project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
c) Result in substantial adverse physical impacts associated with the provision of new or physically altered parks or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Please note that significance criteria a and b are from the Recreation subsection of the 2025 CEQA Guidelines Appendix G, and significance criterion c is from the Public Services subsection of the 2025

CEQA Guidelines Appendix G. The remaining significance criteria for Public Services are addressed in Section 3.15, *Effects Found Not to be Significant*.

Approach to Analysis

To address criterion a and b, analysis first considers whether the proposed project would create circumstances where the demand for parks and recreational facilities would increase, such that a new park would be needed or existing parks would physically deteriorate due to the increased demand. This analysis considers the potential air quality and noise emission impacts within the context of the parks and recreational facilities located within the City of Berkeley, and regionally within the Bay Area. This analysis also considers how the operation of the proposed project would affect the demand for parks using the City's established service ratio of 2 acres of park per 1,000 persons as required by the General Plan's Open Space and Recreation Element.[21] This analysis also considers the physical operation of ferry service in the context of potential conflicts with existing recreational activities.

To address criterion b, the analysis considers the potential adverse physical impacts on the environment from the implementation of new recreational facilities associated with the proposed project. This analysis identifies the environmental impacts associated with new recreational facilities and draws from the analysis already completed throughout Chapter 3 of this EIR.

EIR Scoping Comments Consideration This section addresses comments submitted received in response to the EIR NOP related to various concerns regarding recreation.

One agency (BCDC) requested that the City document recreational use, identify the service area and service population, assess whether recreational facilities for the project are commensurate with need, and assess potential deterioration of facilities. Section 3.10.2, *Environmental Setting* provides details about existing recreational use, the service area and service population, and the existing parks to person ratio; and Impact REC-1 addresses impacts associated with the physical deterioration of recreational facilities.

Organizations and individuals provided general comments about addressing recreational impacts, including impacts on swimming and fishing, as well as recreational access. Comments about recreation impacts and recreational access are addressed in Impacts REC-1 and REC-2. The City also received comments about parking. Comments about parking not related to CEQA impacts are not addressed in this section (please refer to Chapter 3, *Environmental Impact Analysis*, for a discussion about how parking is considered in this EIR).

Specific Significance Thresholds

For purposes of this analysis, the following thresholds are used to evaluate the significance of Recreation impacts resulting from implementation of the proposed project:

- Increase the use of existing on-site and adjacent parks and recreational facilities in a manner that would physically deteriorate such recreational resources.
- Result in population growth or a reduced recreational facilities per capita ratio (specifically below the City's standard of 2 acres of park per 1,000 persons), such that it results in the need for new, altered, or expanded recreational facilities, the construction of which would result in a

[21] Berkeley, City of. 2002. Berkeley General Plan Open Space and Recreation Element. Available: https://berkeleyca.gov/sites/default/files/documents/08_Open%20Space%20and%20Recreation%20Element-FINAL.pdf (accessed December 2025).

significant impact on the environment (pursuant to the CEQA Guidelines Appendix G Significance Criteria).

- Include new, altered, or expanded recreational facilities, the construction or operation of which would result in a significant impact on the environment (pursuant to the CEQA Guidelines Appendix G Significance Criteria).

Impact Evaluation

Physical Deterioration of Existing Recreational Facilities and Need for New or Altered Parks

Significance Criterion a:	Would the proposed project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
Significance Criterion c:	Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered parks or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Impact REC-1 THE PROJECT WILL CREATE A NET INCREASE IN RECREATIONAL FACILITIES THAT DO NOT CURRENTLY EXIST IN THE FORM OF A RESTORED PIER, NEW BAY TRAIL, AND A NEW DEDICATED CYCLE TRACK. THE PROJECT WOULD NOT INDUCE POPULATION GROWTH BUT WOULD INCREASE THE NUMBER OF VISITORS TO THE BERKELEY WATERFRONT AREA THAT MAY INCREASE THE USE OF ON-SITE AND NEARBY EXISTING RECREATIONAL FACILITIES. HOWEVER, GIVEN THAT THE PROJECT WOULD PROVIDE ADDITIONAL RECREATIONAL OPPORTUNITIES AND FACILITIES, IMPACTS RELATED TO A SUBSTANTIAL PHYSICAL DETERIORATION OF EXISTING RECREATIONAL FACILITIES AND SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ON THE ENVIRONMENT FROM THE NEED OF A NEW PARK WOULD BE LESS THAN SIGNIFICANT.

Construction

INCREASED USE AND NEED FOR NEW OR ALTERED PARKS

Direct impacts on parks due to construction would be limited to the installation of a wayfinding signage in Shorebird Park. These potential impacts would be minor, as the construction would be completed using hand tools, would last one day, and would not require the closure of Shorebird Park. For these reasons, direct impacts on parks would be limited; however, there is the potential for construction to result in indirect impacts on recreational resources located near the project site, such as air quality and noise impacts due to use of construction equipment.

Construction would generate noise and air quality emissions from the operation of construction equipment. People using recreational resources near the project site, including McLaughlin Eastshore State Park, the Bay Trail, Marina Mall, Shorebird Park, Horseshoe Park, and the South Sailing Basin, could be exposed to construction noise and emissions associated with the operation of construction equipment. While noise and air emissions might have a negative impact on the experience of people using parks, this inconvenience would be temporary and would not rise to the level of requiring the need for new parks due to the availability of several parks nearby, including César E. Chávez Park or parts of the McLaughlin Eastshore State Park that would be located further away from construction activities. While portions of the trail system for McLaughlin Eastshore State

Park are located adjacent to University Avenue, there are also parts of McLaughlin Eastshore State Park that are located 1,500 feet from University Avenue, where construction would occur. Similarly, there are parts of the South Sailing Basin located approximately 650 to 3,000 feet from where the start of the new pier would be constructed. Given the temporary nature of construction, and that there are many opportunities for people to recreate in the Berkeley Waterfront area during construction, the proposed project would not result in the physical deterioration of recreational facilities or the need for new or altered parks. Therefore, impacts from construction noise and air emissions resulting in need for new or altered parks and would be less than significant.

Access to recreational resources would be affected by staging construction equipment at the Skates on the Bay parking lot, and Parking Lot M. Staging in these parking lots could temporarily reduce parking availability for visitors. Construction activities on Seawall Drive and at the parking lot at 199 Seawall Drive could impact swimmers, windsurfers, kayakers, and fishers who access Bay waters via Seawall Drive south of University Avenue. While construction of the proposed project may temporarily influence recreational users to seek alternative park facilities, the Berkeley Waterfront area spans approximately 100 acres with multiple access points at other locations that would not be affected by construction staging. Therefore, project construction would not preclude recreation at the Waterfront to such an extent that recreational facilities would physically deteriorate or new recreational facilities would be needed.

There are other launch points within the Berkeley Waterfront area where access would not be affected for these recreational users during most tidal conditions such as the South Sailing docks for swimmers, windsurfers, and kayakers as well as the Marina Basin for sailors and kayakers. In addition, there are other launch points in adjacent cities where access would not be affected for these recreational users. A summary is provided below.

Other popular canoe and kayak launch points in the surrounding region include Emeryville Marina Park; Encinal Beach and Ballena Bay in the City of Alameda; Jack London Aquatic Center in the City of Oakland; Crane Cove Park, Mission Creek Channel, South Beach Harbor, Aquatic Park Cove, Torpedo Wharf, and Yacht Harbor in the City of San Francisco; Horseshoe Bay near the City of Sausalito; and Brickyard Cove in the City of Richmond. Richardson Bay, Richmond Marina Bay, San Rafael Creek, Bair Island State Marine Park, and the Carquinez Strait are also popular locations for canoeing and kayaking within the Bay.[22]

Other popular sailing launch points in the region include the Richmond Yacht Club and the Richmond Marina Bay; the San Francisco Yacht Club and Corinthian Yacht Club in the City of Belvedere; Waldo Point Harbor in Sausalito; Encinal Beach, Ballena Bay, and Marina Village Yacht Harbor in the City of Alameda; Jack London Square in the City of Oakland; and the Yacht Harbor and South Beach Harbor in the City of San Francisco.[23]

Other popular paddleboarding launch points in the region include Encinal Beach, Ballena Bay, and Marina Village Yacht Harbor in the City of Alameda; Jack London Aquatic Center and Jack London Square in the City of Oakland; Horseshoe Bay near the City of Sausalito; and the Yacht Harbor, Gashouse Cove, Aquatic Park Cove, Crane Cove Park, Crissy Field, and multiple locations along the eastern and northern shoreline of San Francisco (e.g., Mission Creek Channel) in the City of San

[22] San Francisco Bay Area Water Trail. 2025. Trailheads and Trips. Available: https://sfbaywatertrail.org/map/?id=1443&type=trailheads (accessed May 2025).
[23] San Francisco Bay Area Water Trail. 2025. Trailheads and Trips. Available: https://sfbaywatertrail.org/map/?id=1443&type=trailheads (accessed May 2025).

Francisco. Richardson Bay, San Rafael Creek, Bair Island State Marine Park, and the Carquinez Strait are also popular locations for paddleboarding within the Bay.[24]

Other popular San Francisco Bay swimming areas in the region include Albany Beach in the City of Albany; Keller Beach in the City of Richmond; Alameda Beach in the City of Alameda; Paradise Beach Park in the City of Tiburon; and within Aquatic Cove Park and along Crissy Field East Beach in the City of San Francisco. Belvedere Lagoon and Strawberry Lagoon are also popular locations for swimming within the Bay.[25]

Other popular windsurfing launch points in the region include Coghlan Beach, the San Francisco Bay, and Candlestick Point State Recreation Area in the City of San Francisco; Alameda Beach in the City of Alameda; Coyote Point Beach in the City of San Mateo; and Baywinds Park in the City of Foster City. [26]

For construction occurring in the water, swimming, wind surfing, sailing, and kayaking are prohibited at the existing and new pier areas, pursuant to Berkeley Municipal Code Section 6.20.180, *Prohibited activities*. Boats already navigate around the existing pier and other vessels in the Bay and Marina, and they would similarly be able to navigate around in-water construction activities. Boats entering or exiting the Marina would also be able to maneuver around the work area, as construction would be staged to maintain adequate space for vessel passage. Therefore, water-work would not directly impact water-based recreation. Therefore, project construction would not substantially increase the use of existing park and reactional facilities, including the San Francisco Bay, such that there would be substantial physical deterioration of existing parks and recreational facilities and result in need for new or physically altered park facilities.

Increased Use and Physical Deterioration of Existing Parks

Given the number of other recreational spaces that exist both in the proximate Berkeley Waterfront area and throughout the City of Berkeley that would be available to area residents throughout construction, there is substantial recreational space to distribute users such that no existing park would be deteriorated as a result of increased use that construction would divert from the project site. Therefore, project construction would not substantially increase the use of existing park facilities such that there would be physical deterioration of existing parks, and that would result in need for new or physically altered park facilities. Impacts related to increased use of existing parks and potential related physical deterioration would be less than significant.

Summary

Overall, the construction impact related to the physical deterioration of existing recreational facilities or need for new or altered recreational facilities would be less than significant.

[24] San Francisco Bay Area Water Trail. 2025. Trailheads and Trips. Available: https://sfbaywatertrail.org/map/?id=1443&type=trailheads (accessed May 2025).
[25] San Francisco Bay Area Water Trail. 2025. Trailheads and Trips. Available: https://sfbaywatertrail.org/map/?id=1443&type=trailheads (accessed May 2025).
[26] San Francisco Bay Area Water Trail. 2025. Trailheads and Trips. Available: https://sfbaywatertrail.org/map/?id=1443&type=trailheads (accessed May 2025).

Operation

INCREASED USE AND NEED FOR NEW OR ALTERED PARKS

As described in section 3.14.3, *Population and Housing*, of Section 3.14, *Effects Found Not To Be Significant*, proposed project operation would not directly generate permanent population growth, because the proposed project would not include residential development. Proposed project operation would, however, result in increases in the number of daytime visitors to the Berkeley Waterfront area, which may increase the use of nearby parks and trails.

The City of Berkeley's goal is to maintain a parkland to resident ratio of at least 2 acres of parkland per 1,000 people. The City has a current park acres-to-persons ratio of 34.5 acres per 1,000 people. The total Berkeley population is expected to reach 141,000 people by 2040.[27] In 2040, the park acres-to-persons ratio would be 31.6 acres per 1,000 people. While the proposed project may increase the use of nearby parks and trails[28], given the high projected park acres-to-persons ratio for 2040 (eighteen times the City's goal), and that the project would add recreational amenities, the project would not reduce the park acres-to-persons ratio below the significance threshold of 2 acres per 1,000 people. Therefore, project operation would not alter park service ratios such that there would be a need for new or physically altered park facilities.

INCREASED USE AND PHYSICAL DETERIORATION OF EXISTING PARKS

Given that project operation would not decrease the park acreage service ratio even with additional daytime visitor population at the Berkeley Waterfront area, that the proposed project would result in a net increase of recreational facilities to meet recreation demand, and that multiple other recreational facility and park options exist both in the proximate Berkeley Waterfront area and throughout the City of Berkeley, proposed project operation would not substantially increase the use of existing park facilities such that there would be physical deterioration of existing parks resulting in the need for new or physically altered park facilities. Therefore, project operation would not substantially increase the use of existing park facilities such that there would be substantial physical deterioration of existing parks and result in need for new or physically altered park facilities. Impacts related to increased use of existing parks and potential related physical deterioration would be less than significant.

POTENTIAL CONFLICTS WITH RECREATIONAL USES

Operation of the ferry vessels would not interfere with recreational uses of the Berkeley Waterfront area. Proposed ferry vessels would travel and dock in Bay waters north of the pier, in an area where swimming and windsurfing/sailing is prohibited by the Berkeley Municipal Code Section 6.20.180, *Prohibited activities*. However, other types of recreational boats are permitted to use this area. At present, permitted recreational boats already navigate around the existing pier and other vessels using the Bay and Marina, and they would similarly be able to navigate around the proposed ferry infrastructure and ferry vessels. Boats entering or exiting the Marina would continue to be able to maneuver around ferry infrastructure similar to how they currently navigate the area, as ferry infrastructure would maintain adequate space for the passage and docking of permitted recreational boats. Ferry boats would be regulated near the ferry terminal and be restricted to a

[27] Berkeley, City of. 2023. General Plan, Housing Element. Available: https://berkeleyca.gov/sites/default/files/documents/Berkeley_2023-2031%20Housing%20Element_02-17-2023v2_0.pdf (accessed February 2025).
[28] As shown in Table 2-4 in Chapter 2, *Project Description*, of this EIR, the maximum estimated number of daily ferry users is 1,160 individuals in 2040 (2,320 trips divided by two).

travel speed maximum of 8 knots.[29] More specifically, at 0.33 nautical miles, or approximately 2,000 feet from the terminal, ferry boats would begin to slow speed to reduce the effects of the vessel's wake. At 0.25 nautical miles, or approximately 1,500 feet from the terminal, the vessels would be brought to neutral for transferring and qualifying controls at the wing station for docking.[30] Therefore, the associated ferry wake would not be noticeable within the context of the Berkeley Waterfront area and existing sailboat, motorized boats, and other recreational craft use. Recreation in the South Sailing Basin would not be impacted by operation of the proposed project, given the ferry boats would not traverse that area.

Operation of the ferry would not hinder existing and new physical access to recreational resources on the project site or adjacent areas. The proposed new pier and breakwater, Bay Trail Extension, and green space next to the Bay Trail Extension would be publicly accessible and access to such project-related recreational uses would not be hindered by ferry operation or riders commuting to and from the Berkeley Waterfront area to utilize ferry services. Furthermore, the proposed project would include amenities such as fish cleaning stations, seating, and public restrooms, which would enhance the experience of people visiting the pier and breakwater for recreation.

Therefore, there would be no project operation conflict with recreational uses that would cause substantial deterioration of other recreational resources due to an increased use or that would require the need for a new recreational areas or facilities. No impact related to potential conflict with recreational uses would occur.

SUMMARY

Overall, there would be no operational impact related to the physical deterioration of existing recreational facilities or population growth that could affect service ratios and result in need for new or altered recreational facilities.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

[29] 8 knots is equal to approximately 9.2 miles per hour.
[30] Gerrity, Brian. 2025. Project Manager, Capital Planning, San Francisco Bay Ferry. Personal communication regarding ferry speed in the Berkeley Waterfront area with Leo Mena, Senior Environmental Planner, Rincon Consultants. December 4, 2025.

Physical Effect on the Environment from New or Altered Recreational Facilities

Significance Criterion b:	Does the proposed project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Impact REC-2 THE PROJECT INCLUDES THE CONSTRUCTION OF RECREATIONAL FACILITIES, THE POTENTIAL ENVIRONMENTAL IMPACTS OF WHICH ARE IDENTIFIED AND EVALUATED THROUGHOUT THIS ENVIRONMENTAL IMPACT REPORT. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Construction and Operation

As described in Chapter 2, *Project Description*, the project does include recreational facilities, including the following new facilities:

- Pier and breakwater that would allow for public recreational access.
- Public plaza that would allow for gathering and recreation
- Cycle track along University Avenue
- Bay Trail Extension along the shoreline south of University Avenue
- Recreational amenities adjacent to the proposed Bay Trail Extension

Throughout the specific environmental sections of Chapter 3 of this EIR, the potential adverse physical effects on the environment due to construction and operation of these new and altered recreational facilities is assessed. Below is a summary of the potentially significant environmental impacts identified for the proposed recreational facilities (for additional details, please refer to the specific environmental section):

- **Aesthetics.** Construction of recreational facilities, such as the pier would require construction at night and could, therefore, result in a potentially significant impact related to lighting. Mitigation Measure AES-1 would be implemented and would require temporary lighting be shielded and directed downward and inward (toward the work or staging area). For the same reasons as described in Section 3.1, *Aesthetics*, impacts would be reduced to a less than significant level with mitigation (see Impact AES-4).
- **Air Quality.** Construction of recreational facilities would result in potentially significant impacts on air quality, including impacts related to criteria air pollutants and Toxic Air Contaminations. Mitigation Measure AQ-1 would be implemented and would require use of off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective California Air Resource Board and U.S. Environmental Protection Agency Tier 4 off-road emissions standards or alternatively fueled equipment. For the same reasons as described in Section 3.2, *Air Quality*, impacts would be reduced to a less than significant level with mitigation (see Impact AQ-2 and AQ-3).
- **Biological Resources.** Construction of recreational facilities would result in potentially significant impacts on biological resources. In particular, construction of the pier and the breakwater, which are considered recreational facilities (as well as infrastructure for ferry vessels), would require construction in the water, including pile driving and placement of fill, which could result in impacts on aquatic biological resources. In addition, construction of Bay Trail Extension, cycle track, and public plaza have the potential to affect nesting birds and the Northwestern pond turtle. For the same reasons as described in Section 3.3, *Biological Resources*, impacts would be

reduced to a less than significant level with mitigation (see Impact BIO-1, BIO-2, BIO-3, and BIO-5).

- **Cultural Resources.** Construction of recreational facilities would require excavation and could, therefore, result in a potentially significant impact on unknown archaeological resources. Mitigation Measure CR-1 would be implemented and would require implementation of protocols in the event of an unanticipated find of archaeological resources and preventing additional work in the area of the unanticipated find. For the same reasons as described in Section 3.4, *Cultural Resources*, impacts would be reduced to a less than significant level with mitigation (see Impact CR-2).
- **Hydrology and Water Quality.** Construction of recreational facilities would result in potentially significant impacts on hydrology and water quality. In particular, construction of the pier and the breakwater, which are considered recreational facilities (as well as infrastructure for ferry vessels), would require construction in the water. In-water demolition activities have the potential to directly affect San Francisco Bay water quality if demolition debris were to accidentally enter the water. For the same reasons as described in Section 3.8, *Hydrology and Water Quality*, impacts would be reduced to a less than significant level with mitigation (see Impact HYD-1 and HYD-5).
- **Noise.** Construction of recreational facilities would result in potentially significant noise impacts on sensitive receptors. In particular, construction of the pier and the breakwater, which are considered recreational facilities (as well as infrastructure for ferry vessels), would require pile driving. Mitigation Measure NOI-1 would be implemented and would require a Construction Noise Management Plan, which would reduce construction noise impacts. However for the same reasons as described in Section 3.10, *Noise*, construction noise impacts would be significant and unavoidable (see Impact NOI-1).
- **Tribal Cultural Resources.** Construction of recreational facilities would require excavation on land and dredging in Bay waters and could, therefore, result in a potentially significant impact on unknown tribal cultural resources. Mitigation Measures TCR-1 through TCR-5 would be implemented and would require cultural sensitivity training, signage, tribal monitoring, evaluation of unanticipated discoveries, and protocols for the treatment of Native American human remains during project construction activities. For the same reasons as described in Section 3.13, *Tribal Cultural Resources*, impacts would be reduced to a less than significant level with mitigation (see Impact TCR-1).

Mitigation Measures

MITIGATION MEASURE AES-1: REDUCE NIGHT LIGHTING DURING CONSTRUCTION OF FACILITIES

See Section 3.1, *Aesthetics,* for mitigation measure details.

MITIGATION MEASURE AQ-1: IMPLEMENT CONSTRUCTION EMISSIONS REDUCTION MEASURES DURING CONSTRUCTION

See Section 3.2, *Air Quality,* for mitigation measure details.

MITIGATION MEASURE BIO-1(A): IMPLEMENT WORKER ENVIRONMENTAL AWARENESS PROGRAM PRIOR TO AND DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(B): CONDUCT NORTHWESTERN POND TURTLE SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(C): CONDUCT NESTING BIRD SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(D): CONDUCT PILE DRIVING IMPACT AVOIDANCE TO FISH AND MARINE MAMMALS PRIOR TO AND DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-1(E): PREPARE MARINE MAMMAL MONITORING PLAN PRIOR TO CONSTRUCTION AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-2: IMPLEMENT INVASIVE SPECIES PREVENTION DURING CONSTRUCTION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE BIO-3: PROVIDE COMPENSATORY MITIGATION FOR LOSS OF JURISDICTIONAL WATERS PRIOR TO OPERATION

See Section 3.3, *Biological Resources,* for mitigation measure details.

MITIGATION MEASURE CR-1: STOP WORK AND PREPARE AND IMPLEMENT A DATA RECOVERY PLAN IF UNANTICIPATED ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION

See Section 3.4, *Cultural Resources,* for mitigation measure details.

MITIGATION MEASURE HYD-1: INCLUDE AND IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN THE SWPPP PRIOR TO AND DURING PIER DEMOLITION

See Section 3.8, *Hydrology and Water Quality,* for mitigation measure details.

MITIGATION MEASURE NOI-1: PREPARE AND IMPLEMENT CONSTRUCTION NOISE MANAGEMENT PLAN PRIOR TO AND DURING CONSTRUCTION

See Section 3.10, *Noise,* for mitigation measure details.

MITIGATION MEASURE TCR-1: CONDUCT CULTURAL RESOURCES SENSITIVITY TRAINING PRIOR TO CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources,* for mitigation measure details.

MITIGATION MEASURE TCR-2: PROVIDE SIGNAGE ACKNOWLEDGING NATIVE AMERICAN HISTORY PRIOR TO OPERATION

See Section 3.13, *Tribal Cultural Resources,* for mitigation measure details.

MITIGATION MEASURE TCR-3: CONDUCT NATIVE AMERICAN MONITORING DURING CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources,* for mitigation measure details.

MITIGATION MEASURE TCR-4: EVALUATE DISCOVERED TRIBAL CULTURAL RESOURCES AND IMPLEMENT RESULTING RECOMMENDATIONS DURING CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources,* for mitigation measure details.

MITIGATION MEASURE TCR-5: PROVIDE RESPECTFUL TREATMENT OF NATIVE AMERICAN HUMAN REMAINS UPON UNANTICIPATED DISCOVERY AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources,* for mitigation measure details.

Level of Significance

Significant and Unavoidable (due to temporary construction-related noise; see Impact NOI-1)

3.11.5 Cumulative Impacts

Physical Deterioration of Recreational Facilities And Need for New or Altered Parks

The geographic scope of the cumulative impacts related to the physical deterioration of recreational facilities and provision of new or physically altered parks is the City of Berkeley. The cumulative analysis considers the cumulative growth of Berkeley by 2040.

This analysis considers whether cumulative growth in the City of Berkeley would result in the City meeting its performance ratio of two acres of open space per 1,000 people. The analysis in Impact REC-1 already identifies that in 2040 the park acres-to-persons ratio would be 31.6 acres per 1,000 people. Because this surpasses the City's goal of two acres of open space per 1,000 people, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to the physical deterioration of recreational facilities and provision of new or physically altered parks.

Effect on the Environment from New or Altered Recreational Facilities

The geographic scope of the cumulative impacts related to physical effects from recreational facilities is the vicinity of the project site. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*) located in Berkeley and surrounding areas in addition to the project site.

Cumulative impacts from the construction and operation of recreational facilities associated with the proposed project are analyzed throughout the EIR. As documented throughout the EIR, cumulative impacts from the proposed project, including recreational facilities are either less than significant; the project's contribution to a significant cumulative impact is not cumulatively considerable; or the project's contribution to a significant cumulative impact for construction-noise and operational mobile noise is cumulatively considerable. Therefore, the cumulative impact related to noise from construction and operation of new recreational facilities would be significant and unavoidable.

Overall Level of Cumulative Significance

Significant and Unavoidable (due to temporary construction-related and operational mobile noise).

3.12 Transportation

3.12.1 Introduction

This section describes existing conditions related to roadway, transit, bicycle, and pedestrian circulation systems, as well as the relevant regulatory framework. This section also evaluates impacts of the proposed project related to the potential for conflict with existing programs, plans, ordinances, or policies addressing the circulation system; conflict with *CEQA Guidelines* Section 15064.3(b); increase hazards due to geometric design features; or result in inadequate emergency access. The information in this section is primarily based on the findings of the project-specific Transportation Impact Analysis (TIA), which is included as Appendix F to this EIR.

3.12.2 Environmental Setting

Existing regional transportation networks and facilities in Alameda County and across the San Francisco Bay include an intermodal system consisting of the State and interstate highway system, passenger ferry and freight barge operations, passenger and freight rail, commercial passenger airline service, and bicycle, pedestrian, and bus routes. The following environmental setting discussion focuses on roadway, passenger transit, bicycle, and pedestrian systems and facilities within the project site, and that currently serve the project site and surrounding area.

Roadway System

There is a hierarchy of streets in Berkeley that provide various levels of access and mobility, with regional highways Interstate 80 (I-80) accommodating the highest volumes and speeds, major cross-town arterial streets connecting to freeways and operating at moderate speeds and/or volumes, and local collector roads that link neighborhoods, parks, and schools to the cross-town streets and to each other, with many of these serving adjacent areas and neighborhoods.

Regional Highways

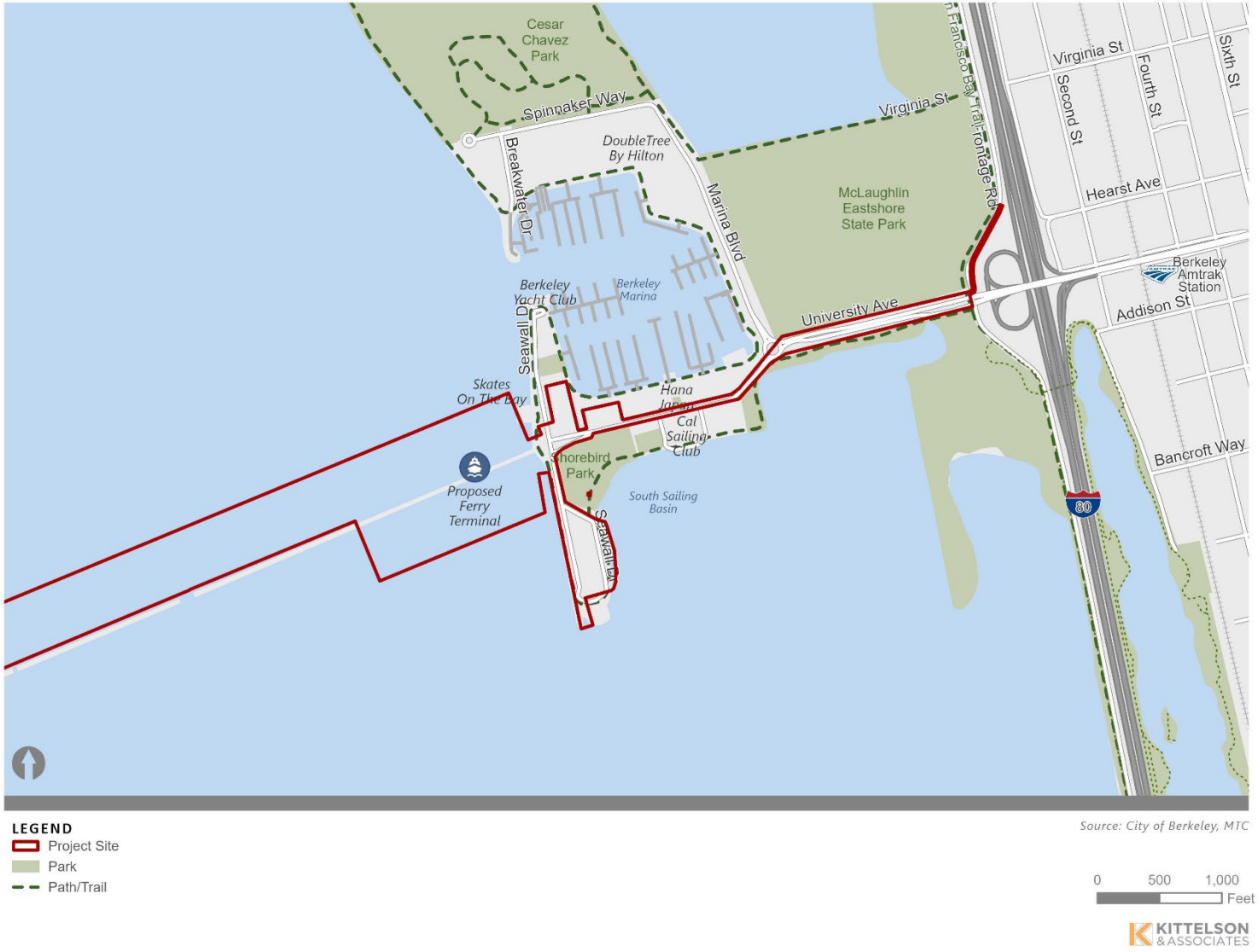
I-80 is a national east-west freeway that runs in a north-south direction near the project site, parallel to the Berkeley shoreline, creating a physical barrier that separates the Berkeley Waterfront from most of the city's urban areas. This highway limits access to/from the Waterfront, with University Avenue being the sole vehicular entry point. Figure 3.12-1 presents the circulation network in the vicinity of the project site.

Major, Collector, and Local Street

Major streets provide for the movement of automobiles, trucks, buses, pedestrians, and bicycles across the city, connecting to the regional transportation network, and to other jurisdictions. Collector Streets provide for the movement of automobiles, buses, pedestrians, and bicycles between neighborhoods and across the city. Local Streets are for local slow traffic, bicycles, and pedestrians.[1]

[1] Berkeley, City of. 2002. Berkeley General Plan Transportation Element. Available: https://berkeleyca.gov/sites/default/files/documents/05_Transportation%20Element%20-%20FINAL_0.pdf (accessed September 2025)

Figure 3.12-1 Existing Roadway Circulation Network within and Adjacent to Project Site



KEY MAJOR STREET

University Avenue is a significant four-lane major street running east-west, connecting the Berkeley Marina and the waterfront area directly to I-80 and the City of Berkeley. With a posted speed limit of 30 miles per hour (mph), University Avenue facilitates traffic flow between the waterfront and Berkeley's downtown, serving as a primary access route for residents, visitors, and commercial traffic heading to the Waterfront.

KEY COLLECTORS

West Frontage Road, which runs adjacent to I-80, is a north-south major collector roadway with one lane in each direction. This road provides local connectivity parallel to the freeway, allowing access to Waterfront areas without requiring freeway travel.

University Avenue turns into a collector street west of I-80. The internal circulation at the Waterfront is further provided by Spinnaker Way and Marina Boulevard, local streets with a posted speed limit of 25 mph.

Truck Routes

Besides I-80, University Avenue is a designated truck route that connects the Berkeley Waterfront with I-80 and Downtown Berkeley to the east. From I-80, trucks can connect seamlessly to the broader regional freight network, including major corridors such as I-580, I-880, and I-680, which support the movement of goods across the San Francisco Bay Area.

Emergency Vehicle Routes

University Avenue east of Marina Boulevard is identified as an emergency access and evacuation route. Berkeley Fire Station no. 6 and no. 1 are located approximately 1.8 miles from the proposed Berkeley Pier.

Pedestrian and Bicycle Facilities

This section describes the existing pedestrian and bicycle network within and connecting to the project site and adjacent areas.

Pedestrian Facilities within and adjacent to Project Site

Sidewalks are mostly present along University Avenue west of Marina Boulevard as shown in Figure 3.12-2. The San Francisco Bay Trail provides a pedestrian connection throughout the Waterfront. Marked crosswalks are present at major crossing locations on University Avenue. The pedestrian and bicycle bridge over I-80 just south of University Avenue is the nearest pedestrian access available for residents living east of I-80. The Gilman Street pedestrian and bicycle bridge over I-80 is located about 0.6 miles north of University Avenue.

Bicycle Facilities within and adjacent to Project Site

The San Francisco Bay Trail Extension provides bicycle and pedestrian access to the Waterfront from the intersection of University Avenue and Frontage Road as shown in Figure 3.12-3. The bicycle and pedestrian bridge across I-80 connects the Waterfront with the City of Berkeley and the Virginia Street Right-of-Way (a dirt pathway) offers another bike and pedestrian connection. There are 149 short-term bicycle parking spaces located in racks throughout the project site and 10 BikeLink lockers for secure bike storage located at the Bait Shop/Hana Japan Restaurant building. As shown

in Figure 3.12-3, most of the bike parking is located near the major destinations near central and south vehicle parking facilities.[2]

Transit Service

As shown in Figure 3.12-4, AC Transit Bus Route 51B connects the Berkeley Waterfront area and Rockridge BART via College Avenue, Downtown Berkeley BART, and University Avenue. Only one out of every three scheduled bus trips between 7 am and 9 pm serves the Waterfront; all other trips terminate at the Berkeley Amtrak station, resulting in a frequency of two (2) buses every hour at the Waterfront.

[2] Berkeley, City of. 2025. Berkeley WTPF Parking and TDM Plan. Available: https://berkeleyca.gov/sites/default/files/documents/Berkeley-WTPF-Parking-and-TDM-Plan-March-2025-Public-Draft.pdf (accessed September 2025)

Figure 3.12-2 Existing Pedestrian Facilities within and Adjacent to Project Site



Figure 3.12-3 Existing and Approved Major Bicycle Facilities within and Adjacent to Project Site

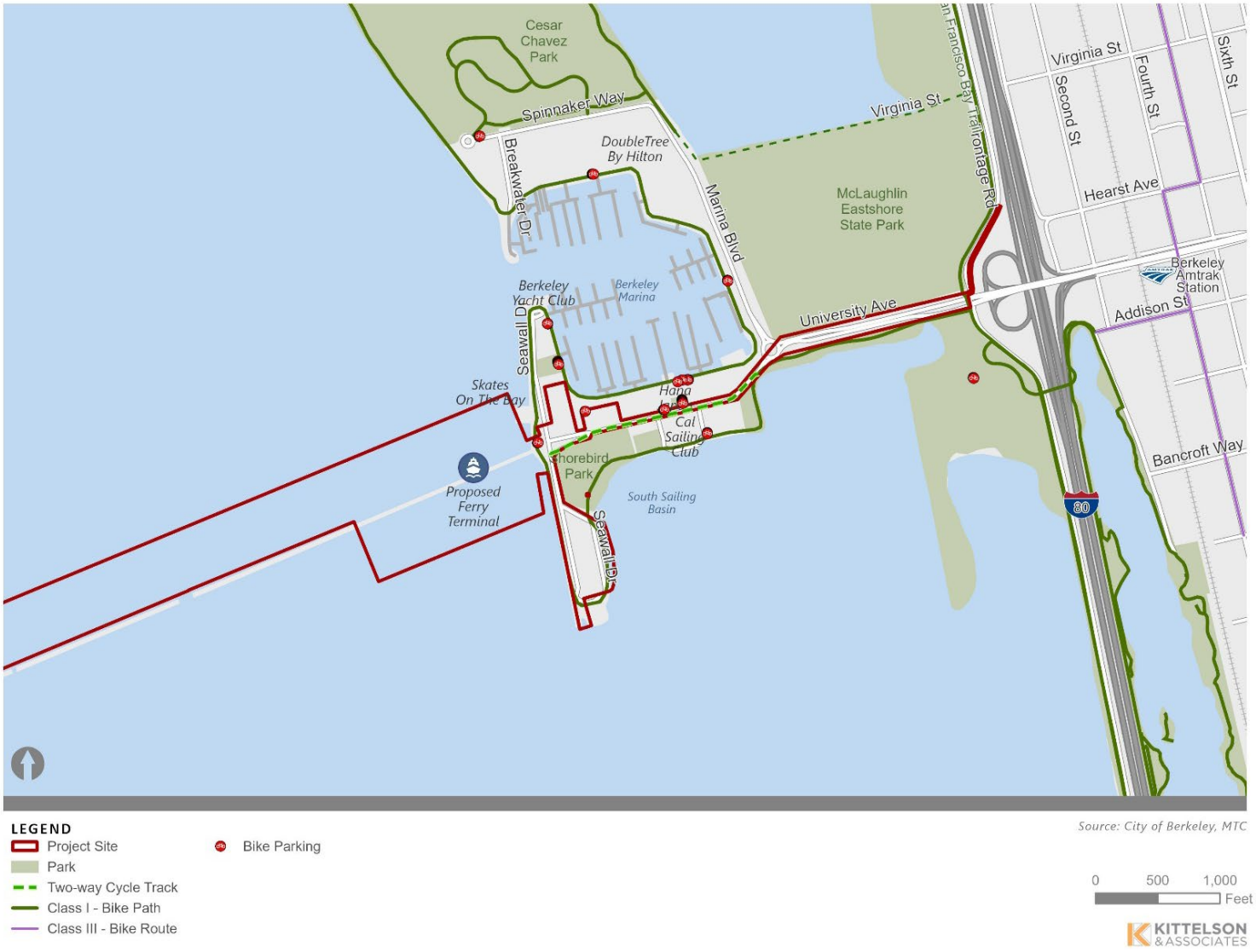
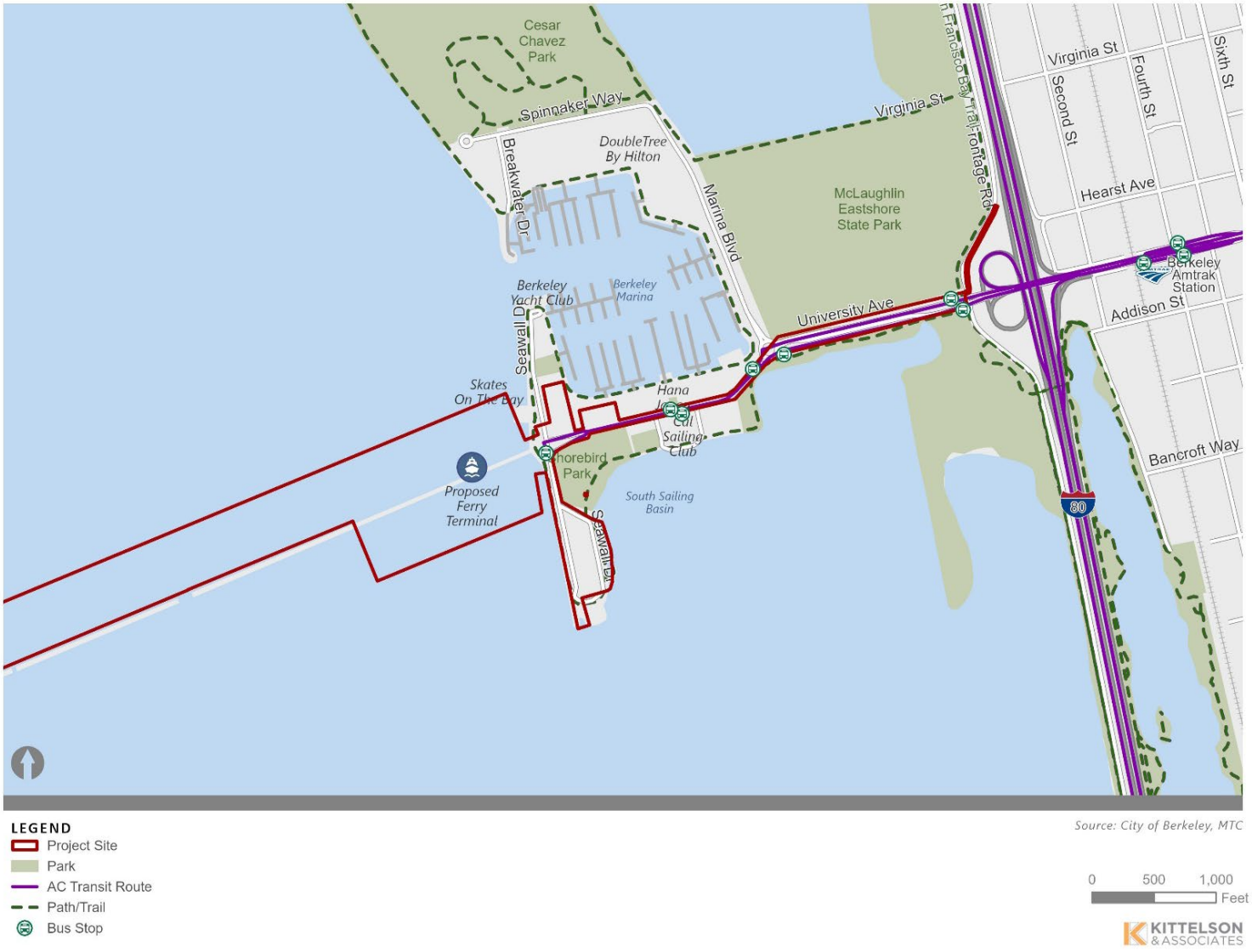


Figure 3.12-4 Existing Transit Lines and Stops within and Adjacent to Project Site



3.12.3 Regulatory Framework

Federal Regulations

Americans with Disabilities Act of 1990

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the United States Access Board, an independent Federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. The guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency of the United States Department of Transportation responsible for the federally funded roadway system, including the interstate highway network and portions of the primary State highway network. FHWA funding is provided through the Fixing America's Surface Transportation Act. Federal funds can be used to fund eligible local transportation improvements such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, pedestrian facilities, and transit system upgrades.

State Regulations

California Transportation Impacts Analysis Reform Act (Senate Bill 743)

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law. SB 743 changed the way transportation impact analysis is conducted as part of CEQA compliance. These changes eliminated automobile delay, level of service or LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA.

Prior rules treated automobile delay and congestion as an environmental impact. SB 743 requires the *CEQA Guidelines* to prescribe an analysis that better accounts for transit and reductions of greenhouse gas emissions. In December 2018, the Office of Planning and Research, now the Office of Land Use and Climate Innovation (LCI) released the final update to *CEQA Guidelines* consistent with SB 743, which recommends using vehicle miles traveled (VMT) as the most appropriate metric of transportation impact to align local environmental review under CEQA with California's long-term greenhouse gas emissions reduction goals. The *Guidelines* require all jurisdictions in California to use VMT-based thresholds of significance no later than July 1, 2020.

At the same time as the release of the updated *CEQA Guidelines,* OPR also released a non-binding *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which identifies potential VMT analysis methodologies and thresholds of significance for use by agencies in California based on

substantial evidence developed by OPR related to achievement of the State's greenhouse gas emissions reductions targets.[3]

California Sustainable Communities and Climate Protection Act (Senate Bill 375)

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach greenhouse gas emissions goals by directing the California Air Resources Board to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations.

California Traffic Safety Act (Assembly Bill 43)

AB 43, also known as Traffic Safety, allows local government agencies to reduce vehicle speeds to accommodate vulnerable users such as pedestrians, bicyclists, seniors, and wheelchair users to improve traffic safety. AB 43 took effect in July 2024. While the City has not yet passed any ordinances to implement the bill, the City of Berkeley supports AB 43 and has plans to utilize the bill to reduce speed limits, specifically in Business Activity Districts, Safety Corridors, or areas with high concentrations of pedestrians and cyclists.

California Department of Transportation Planning Documents

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the State highway system. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the highway system, including ramps and access points, would need to be approved by Caltrans. The following Caltrans planning documents emphasize the State of California's focus on transportation infrastructure that supports mobility choice through multimodal options, smart growth, and efficient development.

SMART MOBILITY FRAMEWORK

The purpose of the Smart Mobility Framework, published in February 2010, is to address the State mandate to find solutions to climate change, reduce per capita VMT, and create a safe and equitable transportation system.[4] The Smart Mobility Framework includes 10 implementing themes to achieve its purpose, including integration into Caltrans and other transportation agencies' policy and practice, collection of data and tools to implement the Smart Mobility Framework, undertaking of major cross-functional initiatives, and integration into local government land use and transportation planning.

COMPLETE STREETS ACTION PLAN

On September 30, 2008, the California Complete Streets Act of 2008 was signed into law. The law requires cities and counties to incorporate complete streets policies in their general plans, promoting safe, multi-modal access for all transportation users. Caltrans released the Complete Streets Action Plan in 2024 which aims to identify the highest-priority efforts in 2024-2025 across the Department of Transportation needed to implement Complete Streets. The City of Berkeley adopted its Complete Streets policy on December 11, 2012, further described below.

[3] California Office of Land Use and Climate Innovation (formerly Office of Planning & Research). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Available: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed October 2025).
[4] Caltrans. 2010. Smart Mobility 2010. February 2010. Available: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/office-of-smart-mobility-and-climate-change/smf-handbook-062210-a-a11y.pdf (accessed October 2025).

CALTRANS DEPUTY DIRECTIVE 64-R1: COMPLETE STREETS – INTEGRATING THE TRANSPORTATION SYSTEM

In 2001, Caltrans adopted Deputy Directive 64; a policy directive related to non-motorized travel throughout the State. In October 2008, Deputy Directive 64 was strengthened to reflect changing priorities and challenges. Deputy Directive 64-R1 states:

> The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility across California."

Successful long-term implementation of this directive is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

DIRECTOR'S POLICY 22: DIRECTOR'S POLICY ON CONTEXT SENSITIVE SOLUTIONS

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all State highways, was adopted by Caltrans in November of 2001. The policy reads:

> The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

The policy recognizes that "in towns and cities across California, the State highway may be the only through street or may function as a local street," that "these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods," and that "communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality." The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

STRATEGIC PLAN 2020-2024

Caltrans' 2020-2024 Strategic Plan weaved sustainability principles through all of its goals. Goals of the Strategic Plan are related to safety, enhancing and connecting the multimodal transportation network, lead climate action, and advancing equity in all communities.[5]

[5] Caltrans. 2021. Caltrans 2020-2024 Strategic Plan. Available: https://dot.ca.gov/-/media/dot-media/programs/risk-strategic-management/documents/sp-2020-16p-web-a11y.pdf (accessed October 2025).

CALIFORNIA TRANSPORTATION PLAN 2050

Caltrans completed the California Transportation Plan to comply with Title 23, Code of Federal Regulation Section 450.214 and pursuant to California Government Code Title 7 Division 1 Chapter 2.3. The California Transportation Plan provides a roadmap for making effective, equitable, transparent, and transformational transportation decisions in California. The vision of the California Transportation Plan is: "California's safe, resilient, and universally accessible transportation system supports vibrant communities, advances racial and economic justice, and improves public and environmental health," which is supported by goals related to safety, climate, equity, accessibility, public health, economy, environment, and infrastructure.[6]

California Building Code

California provides minimum standards for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The CBC is based on the 1997 Uniform Building Code with modifications specific for California conditions. The CBC provides fire and emergency equipment access standards for public roadways, which include specific width, grading, design and other specifications for roads which provide access for fire apparatus. Street modifications in the City of Berkeley are subject to these and other modified State standards. The City of Berkeley adopted the 2019 edition of the CBC in 2019.

Regional and Local Regulations

Plan Bay Area 2050

The ABAG/MTC Plan Bay Area 2050, adopted in October 2021 and last updated in November 2024, integrated transportation and land-use plan for the nine-county San Francisco Bay Area, including Alameda County. Plan Bay Area 2050 meets all state and federal requirements for a Regional Transportation Plan and Sustainable Communities Strategy, also referred to as the RTP/SCS. The Plan describes where and how the region can accommodate the slightly fewer than 1.4 million new households and 1.4 million new jobs projected in the Bay Area by 2050 and details the regional transportation investment strategy over this period. The Plan identifies 35 strategies that focus on improving housing, the economy, transportation, and the environment across the Bay Area over a 30-year period. The plan has identified four geographic areas to guide where future growth in housing and jobs would be focused over the next 30 years: Priority Development Areas (PDA), Priority Production Areas (PPA), Transit Rich Areas (TRA), and High-Resource Areas (HRA). ABAG and MTC developed land use and transportation scenarios in Plan Bay Area 2050 that distributes the total amount of anticipated growth across the region and measure how well each scenario measures against the Plan goals. Based upon performance, the preferred scenario provides a regional pattern of household and employment growth and a corresponding transportation investment strategy. The following strategies are applicable to the Waterfront area, and are therefore applicable to the proposed project:

- **Strategy T3**. Enable a Seamless Mobility Experience.
- **Strategy T5**. Implement a Per-Mile Tolling on Congested Freeways with Transit Alternatives.
- **Strategy T8.** Build a complete streets network.
- **Strategy EN1**. Adapt to Sea-Level Rise.
- **Strategy EN8.** Expand clean vehicle initiatives.

[6] Caltrans. 2021. California Transportation Plan 2050. February. Available: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/ctp-2050-v3-a11y.pdf (accessed October 2025).

Metropolitan Transportation Commission Transit-Oriented Communities Policy

In 2022, the MTC adopted the Transit-Oriented Communities (TOC) Policy to promote compact, mixed-use development near major transit hubs across the Bay Area. The policy applies to areas within a half-mile of rail stations, bus rapid transit stops, and ferry terminals, and is designed to encourage jurisdictions to revise zoning laws to support higher residential and commercial densities. It also emphasizes the creation and preservation of affordable housing, improved access to transit stations, and reduced reliance on personal vehicles through parking limitations and enhanced multimodal connectivity.

The TOC Policy is a strategic component of Plan Bay Area 2050, aiming to reduce greenhouse gas emissions, increase transit usage, and foster equitable growth. To incentivize compliance, MTC ties access to certain transportation funds to local implementation of the policy's requirements, which include minimum density standards, anti-displacement measures, and sustainable station access planning.

Berkeley General Plan

TRANSPORTATION ELEMENT

The City of Berkeley Transportation includes the following policies relevant to Transportation.

Policy T-2: Public Transportation Improvements.

Encourage regional and local efforts to maintain and enhance public transportation services and seek additional regional funding for public and alternative transportation improvements.

Policy T-4: Transit First Policy.

Give priority to alternative transportation and transit over single occupant vehicles on Transit Routes identified on the Transit Network map.

Policy T-9 Ferry Service.

Continue to evaluate the possibility of working with the City of Albany, the racetrack owners, regional transportation agencies, and AC Transit to establish a ferry terminal and regular San Francisco ferry service from Berkeley at the foot of Gilman Street or at the foot of University Avenue as an alternative to the Bay Bridge and as an essential recovery element following a significant seismic event. Actions:

A. Ensure transit, shuttle, and bicycle connections are in place before beginning ferry service to minimize parking demand and traffic caused by people driving to the ferry service.
B. Prioritize transit, pedestrian, and bicycle public expenditures over expenditures of public funds for ferry service, and ensure that new ferry service will not result in a reduction in public subsidies for existing transit services.
C. Ensure that ferry services are less environmentally detrimental than the automobile. Advocate for low-emission, environmentally sensitive ferries.

Policy T-18: Transportation Impact Analysis and Vehicle Miles Traveled.

When considering transportation impacts under the California Environmental Quality Act, the City shall consider how a plan or project affects all modes of transportation, including transit riders, bicyclists, pedestrians, and motorists, to determine the transportation impacts of a plan or project. Plans and projects shall be designed to deliver significant benefits to travel by pedestrians, bicycle, or transit, and/or reduced impacts on air quality, greenhouse gas emissions, and safety. For the purposes of CEQA, VMT shall be the metric used to analyze the transportation impacts of a plan or project.

Policy T-23: Truck Routes and Truck Traffic

To the greatest extent possible, protect residential streets from hazardous or heavy traffic.

Policy T-29: Infrastructure Improvements

Facilitate mobility and the flow of traffic on major and collector streets (shown on the Vehicular Circulation Network map at the end of the Element[7]), reduce the air quality impacts of congestion, improve pedestrian and bicycle access, and speed public transportation throughout the city by making improvements to the existing physical infrastructure.

Policy T-43: Bicycle Network

Develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle-parking facilities to promote cycling. Actions:

A. Expand the supply of highly secure bicycle parking near transit hubs and commercial areas.

Policy T-48: Pedestrian Plan

Create a Pedestrian Plan for the purpose of developing additional strategies and policies to make Berkeley safer for pedestrians and to make Berkeley a more pedestrian-friendly city.

Policy T-50: Sidewalks

Maintain and improve sidewalks in residential and commercial pedestrian areas throughout Berkeley and in the vicinity of public transportation facilities so that they are safe, accessible, clean, attractive, and appropriately lighted.

Policy T-52: Pedestrian Safety and Accessibility

Provide safe and convenient pedestrian crossings throughout the city.

Policy T-54: Pathways

Develop and improve the public pedestrian pathway system. Actions:

A. Continue to make repairs and safety improvements on public paths and restore unimproved paths

[7] University Avenue is identified as a Collector Street in the Vehicular Circulation Network map in the Transportation Element of the General Plan.

Berkeley Vision Zero Resolution and Vision Zero Action Plan

The Berkeley City Council adopted a Vision Zero Policy (Resolution 68,371-N.S.) in March 2018, with a goal of eliminating traffic deaths and severe injuries by 2028. This resolution directed a Vision Zero task force to develop a Vision Zero Action Plan, which was subsequently created and approved by City Council in March 2020. The plan contains the following policies relevant to the proposed project:

- **Policy 1.1:** Collaboration with City departments, regional and community partners, and mobility providers to achieve Vision Zero Goals.
- **Policy 2.1:** Prioritize high-injury streets and the most vulnerable street users.
- **Policy 2.2:** Design for vulnerable users of the transportation network, including people of all ages and abilities.
- **Policy 2.3:** Deliver Vision Zero traffic safety infrastructure improvements both reactively and proactively.
- **Policy 3.1:** Create a culture of traffic safety by promoting awareness through public information programs and campaigns.

Berkeley Complete Street Policy

The Berkeley City Council adopted a Complete Streets Policy (Resolution 65,978-N.S.) in December 2012, to guide future street design and repair activities. “Complete Streets” describes a comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, emergency vehicles, seniors, children, youth, and families.

Berkeley Bicycle Master Plan

The City of Berkeley Bicycle Plan, approved by Berkeley City Council in May 2017, contains the overall vision that “Berkeley will be a model bicycle-friendly city where bicycling is a safe, comfortable, and convenient form of transportation and recreation for people of all ages and abilities.” The Master Plan identifies three overarching goals: (1) safety first, (2) Strength in Numbers, meaning increasing bicycle use, and (3) all ages and abilities, meaning bicycling can be done by those of all ages and abilities.

Berkeley Pedestrian Master Plan

The City of Berkeley Pedestrian Master Plan, adopted in June 2010 and updated in 2020 is a critical component of the City’s efforts to meet diverse travel needs and improve mobility for everyone who is walking and traveling with an assistive device in Berkeley. The goals of the Pedestrian Master Plan include the following:

- Increase safety and comfort for people walking.
- Increase equity and transportation choices for all.
- Improve public health and environmental sustainability.

Berkeley Strategic Transportation Plan

The Berkeley Strategic Transportation (BeST) Plan, adopted in 2016, establishes goals and strategies to enhance the City's transportation network, improve safety for all users, and increase access to

key destinations and services. The plan focuses on physical improvements and aims to create a more efficient and equitable transportation system for the entire community. The BeST Plan organizes goals policies and guidelines into "evaluation criteria" that were weighted according to community input to prioritize transportation projects within the City.

3.12.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following *2025 CEQA Guidelines* Appendix G significance criteria questions related to Transportation.

Would the proposed project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
b) Conflict or be inconsistent *CEQA Guidelines* Section 15064.3, subdivision (b)?
c) Substantially increase traffic-related hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
d) Result in inadequate emergency access?

Approach to Analysis

VMT Impact Methodology and Assumptions

Because SB 743 eliminated the use of level of service for CEQA impact analysis purposes, that method is not utilized in this analysis. The analysis in this document examines potential roadway transportation impacts under current CEQA criteria. The primary quantitative measure of roadway impacts is VMT. The City of Berkeley VMT Criteria and Thresholds document is limited to land use projects and does not include procedure and guidance for transportation projects.[8] This VMT analysis methodology utilizes the procedures described in the Office of Land Use and Climate Innovation's (formerly the Office of Planning and Research) *Technical Advisory on Evaluating Transportation Impacts in CEQA.* VMT impacts are assessed by identifying the net change in Total VMT.

EIR Scoping Comments Consideration

This section also addressed comments received in response to the EIR NOP related to construction access, pedestrian and bicycle safety, conducting VMT analysis (as requested by Caltrans), mode split assumptions, availability of public parking spaces for recreational users and hazards related to a loss of control event.

Construction access and pedestrian and bicycle safety are addressed in Impact TRA-1.

VMT impacts are addressed in Impact TRA-2.

The mode split assumptions and the methodology to obtain the mode split numbers were developed using the latest WETA onboard passenger survey and WETA Business Service Plan for

[8] Berkeley, City of. 2020. VMT Criteria and Thresholds. Available: https://berkeleyca.gov/sites/default/files/2022-02/VMT-Criteria-and-Thresholds.pdf (accessed September 2025)

Berkeley Ferry service. More details including the Mode Share Summary for Ferry Riders (no TDM) is found in Table 3 of the TIA (Appendix F).

Comments related to parking availability, as related to potential CEQA impacts on VMT are addressed in Impact TRA-2.

The potential impacts related to safety from operation of ferry vessels, including a loss of control event are addressed in Impact TRA-3.

Specific Thresholds of Significance

Berkeley has not adopted quantitative thresholds for the evaluation of roadway or transit facilities, design feature hazards, or emergency access. However, the City applies the following qualitative transportation thresholds:

Roadway Facilities

The evaluation of roadway facilities considers whether the project would result in the following:

- Disrupt or conflict with existing roadway facilities; or
- Conflict with roadway policies adopted by the City of Berkeley for respective facilities.

Transit Facilities

The evaluation of transit facilities considers whether the project would result in the following:

- Disrupt or conflict with existing transit services or facilities; or
- Conflict with transit policies adopted by the City of Berkeley for respective facilities.

Bicycle and Pedestrian Facilities

The evaluation of bicycle and pedestrian facilities considers whether the project would result in the following:

- Disrupt or conflict with an existing or planned bicycle or pedestrian facility; or
- Conflict with policies related to bicycle and pedestrian activity adopted by adopted by the City of Berkeley for respective facilities.

Vehicle Miles Traveled

The evaluation of VMT impacts considers whether the project results in a net increase in regional VMT.

Design Feature Hazards

The evaluation of impacts related to hazardous design features considers whether the project would result in the following:

- Queueing that blocks roadways or intersections and causes roadway safety hazards;
- An incompatible use that introduces new hazards to roadways;
- Inconsistency with applicable WETA and industry design standards for ferry facilities; or
- inconsistency with applicable City and industry design standards for roadways, bicycle facilities, and pedestrian facilities.

Emergency Access

The evaluation of impacts related to emergency access considers whether the project results in the following:

- Does not provide adequate access or turning radii for emergency vehicles; or
- Impedes or delays access for emergency responders during construction or operation.

Impact Evaluation

Consistency with Circulation System Programs

Significance Criterion a:	Would the proposed project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact TRA-1 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH A PROGRAM, PLAN, ORDINANCE, OR POLICY ADDRESSING THE CIRCULATION SYSTEM, INCLUDING TRANSIT, ROADWAY, BICYCLE AND PEDESTRIAN FACILITIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction

ROADWAY, TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES

Construction activities could create potential conflicts with other roadway, transit, bicycle, and pedestrian users, such as construction related activities resulting in temporary lane, bicycle path, or sidewalk closures along University Avenue or Seawall Drive. The City of Berkeley Municipal Code Section 16.18.250 states that "at no time shall a public street be closed, or the use or access thereof denied the general public, or to adjacent private property without the written permission of the Assistant City Manager for Public Works." Any lane closures or impacts on public roadways such as University Avenue and Seawall Drive would require a permit from the City of Berkeley.[9] The City of Berkeley regulates encroachment on roadways through a permitting process that considers potential impacts on roadways, including requirements for traffic control plans. Because construction impacts would be temporary in nature and because any effects on the roadway system (including bicycle, pedestrian, and transit facilities on University Avenue and Seawall Drive) would be minimized through a traffic control plan, construction of the proposed project would result in a less than significant impact with respect to conflicts with circulation system policies related to roadway, transit, bicycle, and pedestrian facilities.

Operation

ROADWAY FACILITIES

The City's General Plan includes policies related to accounting for all modes of travel (Policy T-18) and to improve infrastructure to facilitate mobility and the flow of major collector streets (Policy T-29; note: University Avenue is considered a collector street).

[9] Berkeley, City of. 2025. Engineering Permits. Available: https://berkeleyca.gov/construction-development/permits-design-parameters/permit-types/engineering-permits (accessed June 2025)

As described in further detail in the *Transit Facilities, Bicycle Facilities,* and *Pedestrian Facilities* subsections below, the proposed project would develop a transportation network that accounts for all modes of travel. The proposed project would include improvements to University Avenue and Seawall Drive, consistent with Policy T-29 to improve existing infrastructure. The circulation flow, however, would remain the same. Implementation of the proposed project would be consistent with policies related to roadway circulation. Therefore, with respect to conflicts with policies related to roadway circulation, operational impacts of the proposed project would be less than significant.

TRANSIT FACILITIES

The proposed project would not obstruct existing transit services or facilities, nor would it conflict with existing or planned facilities. In fact, the proposed project would implement new transit facilities and service, in the form of new ferry service from Berkeley, as well as improvements to bus facilities, in order to allow for expanded service in the future.

Overall, the proposed project would be consistent with the goals and policies identified in regional and local plans. For example, Plan Bay Area 2050+ includes Transit 2050+, which is a parallel long-range planning effort to Plan Bay Area 2050+ to re-envision the future of the public transit network in the nine-county Bay Area. The proposed project is identified as a project in Transit 2050+ (RTPID 25-T11-164).[10] In addition, the project would be consistent with the overall objectives in the City's General Plan, Transportation Element to maintain and improve public transportation services throughout the City, and reduce automobile use and VMT by providing transportation alternatives.

The proposed project would also be consistent with Policy T-9 (Ferry Service), which states that the City should continue to evaluate the possibility of a ferry terminal. As indicated in Policy T-9, ferry service is an envisioned transit use for the City. Regarding Action A of Policy T-9, the proposed project includes transit and bicycle connections as part of the proposed project, and the City will continue to explore potential shuttles. Regarding Action B of Policy T-9, the proposed project has been funded through the design phase with the following sources: the City's Marina Fund, the City's Measure T1 bond program, the City's Capital Improvement Fund, WETA RM3 funds, Alameda County Transportation Commission grant funds, and California State Coastal Conservancy (SCC) grant funds. The project funding will not result in a reduction in public subsidies for existing transit services. Regarding Action C of Policy T-9, as documented in this EIR, most of the project-level environmental impacts would be less than significant, or less than significant with mitigation. While the project would result in significant and unavoidable construction noise impacts (as well as significant and unavoidable land use and recreation impacts due to this construction-noise impact), these impacts would be temporary. The proposed ferry is a zero-emission electric ferry, which would be less environmentally detrimental than automobiles that are not zero-emissions.

With respect to conflicts with policies related to transit facilities, operational impacts would be less than significant.

BICYCLE FACILITIES

The City's General Plan includes policies to develop a safe, convenient, and continuous network of bikeways that serves the needs of all types of bicyclists, and provide bicycle-parking facilities to promote cycling (Policy T-43). The City also has a Complete Streets Policy to create safe and convenient travel along and across streets for all users, including bicyclists. Furthermore, the

[10] MTC/ABAG. 2025. Plan Bay Area 2050+ Final Blueprint: Transportation Project List Attachment F - Updated. Available: https://planbayarea.org/sites/default/files/meetings/attachments/6204/10a_25_0106_7_Attachment_F_Transportation_Project_List_CORRECTED.pdf (accessed June 2025).

Berkeley Bicycle Master Plan includes safety goals, as well as goals to increase bicycle use for those of all ages and abilities. The BeST Plan and the Vision Zero Policy includes additional goals to improve safety for bicyclists.

Overall, the proposed project would be consistent with the goals and policies related to bicycle safety and the expansion of bicycle use. The proposed project includes new bicycle facilities to expand safe bicycle use. For example, the proposed project would include the installation of a raised cycle track on University Avenue, which would be separated from University Avenue, thereby creating a safer bicycling environment. In addition, the proposed project would include bicycle lockers and bike racks, and individuals would be able to take their bicycles on ferry vessels. All of these facilities would create a safer and more robust bicycle environment, compared to what exists today. Implementation of the proposed project would be consistent with policies related to bicycle facilities. Therefore, with respect to conflicts with policies related to bicycle facilities, operational impacts of the proposed project would be less than significant.

PEDESTRIAN FACILITIES

The City's General Plan includes policies to make Berkeley safer for pedestrians (Policy T-48 and T-52), improve sidewalks in the vicinity of public transportation facilities (Policy T-50), and to develop a public pedestrian pathway system, including repairing public paths and restoring unimproved paths (Policy T-54, Action D). The City also has a Complete Streets Policy to create safe and convenient travel along and across streets for all users, including pedestrians. Furthermore, the Berkeley Pedestrian Master Plan includes goals to increase safety for people walking, increase equity and transportation choices, and improve public health and environmental sustainability. The BeST Plan and the Vision Zero Policy includes additional goals to improve safety for pedestrians.

Overall, the proposed project would be consistent with the goals and policies related to pedestrian safety and the expansion of pedestrian facilities. The proposed project includes the construction of new sidewalks along University Avenue, the Bay Trail Extension along Seawall Drive, and a new public plaza. The proposed project also includes crosswalks and way-finding signage that would create a safer pedestrian environment. All of these facilities would create a safer and more robust pedestrian environment, compared to what exists today. Implementation of proposed project would be consistent with policies related to pedestrian facilities. Therefore, with respect to conflicts with policies related to pedestrian facilities, operational impacts of the proposed project would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Vehicle Miles of Travel

Significance Criterion b:	Would the proposed project conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b)?

Impact TRA-2 THE PROPOSED PROJECT WOULD NOT CONFLICT OR BE INCONSISTENT WITH CEQA GUIDELINES SECTION 15064.3, SUBDIVISION (B), AND THE PROJECT WOULD CONTRIBUTE TO A NET REDUCTION IN ROADWAY VEHICLE-BASED VMT. NO IMPACT WOULD OCCUR.

Construction

VMT generated project construction would be primarily associated with construction worker commutes, haul trips, truck deliveries, and detour routes. However, pursuant to CEQA Guidelines Section 15064.3(b), a quantitative analysis of VMT is typically limited to operational impacts. Therefore, construction-related VMT is evaluated qualitatively. Construction-related vehicle trips would be temporary in nature and would not result in long-term trip generation. While construction activities may marginally generate VMT related to construction worker commutes, haul trips, truck deliveries, and detour route, construction would not substantially impact regional VMT. Given that operation of the project would overall reduce VMT, any VMT generated by construction would be offset by VMT-saving from operation of the proposed project. For this reason, there would be no VMT impacts from construction of the project.

Operation

Transit projects typically reduce VMT and are therefore presumed to have a less-than-significant impact on transportation. According to the *Technical Advisory on CEQA Review of Sustainable Transportation Projects*, this presumption applies to passenger rail, bus, and bus rapid transit projects. This presumption can also reasonably extend to ferry terminal projects, as their primary purpose is to offer an alternative travel mode for individuals who might otherwise commute by private motor vehicle.[11]

The project is estimated to generate 1,127 daily vehicle trips (see Appendix F for additional details). However, it is anticipated that most of these trips are not new trips, and were originally headed to San Francisco by driving across the Bay Bridge. Some of these trips might have shifted from commuters previously taking BART and Transbay bus services. The 2022 WETA Berkeley Ferry Service Business Plan, Version 1.0 identifies the following:[12]

- Approximately 9,000 jobs and 10,000 residents are located within a one-mile radius of the proposed project site;
- Residents within 1-mile of the Marina are currently less likely to use public transit as their primary commute mode, reflecting West Berkeley's more limited options for public transit than other areas of the City;
- There are more jobs in San Francisco and San Mateo counties than in Alameda and Contra Costa counties and those jobs, on average, command higher salaries;

[11] California Office of Land Use and Climate Innovation (formerly Office of Planning & Research). 2021. Technical Advisory on Sustainable Transportation Projects. Available: https://lci.ca.gov/ceqa/docs/20211110-Sustainable_Transportation_TA.pdf (accessed September 2025)

[12] WETA. 2022. WETA Berkeley Ferry Service Business Plan, Version 1.0. March 17, 2022. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20240926061356/Item-8A-Berkeley-Ferry-Service-Business-Plan.pdf (accessed: August 2024).

- West Berkeley residents currently access fewer jobs via transit than automobile, which shows the potential to increase accessibility to jobs by adding a commute ferry; and
- Ferry service between Berkeley and San Francisco would increase access to these higher-paying jobs, allowing workers to live in East Bay while working in San Francisco.

For these reasons, it is expected that people in West Berkeley who currently have limited transit options and are likely to drive into San Francisco would use the ferry service.

Assuming most ferry riders will conservatively begin within a 5-mile radius of the Berkeley Waterfront and end within a 3-mile radius of the San Francisco ferry building, the total vehicle trip length would be 8 miles.[13] Based on an average roadway vehicle distance from Berkeley to San Francisco of 25 miles, versus the lower average trip length of 8 miles with project implementation, this project would contribute to a net reduction in vehicle based VMT. Because the project would reduce regional VMT, the project would result in no net new VMT impact and would in fact provide a regional benefit by reducing VMT.

The City has received comments from the public stating that use of the parking lot by ferry users may reduce access for those swimming, windsurfing, kayaking, fishing, and other recreational uses because parking spots that could be used by these recreators might instead be used by persons using the ferry service. However, access to, provision of, and/or scarcity of parking is not an environmental impact under CEQA. *San Franciscans Upholding the Downtown Plan v. City & County of San Francisco* (2002) 102 Cal. App. 656 at 697. Scarcity of parking is only considered a potential secondary impact under CEQA if it results in a physical impact on the environment, such as increased VMT. The project is overall resulting in a reduction in VMT, and potential VMT increases due to searching for parking are expected to be nominal given the availability of parking (see Appendix F). For these reasons there would be no secondary impacts on VMT due to scarcity of parking.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

[13] Transportation Research Board of the National Academies. Coffel, K., Parks, J., Semler, C., Ryus, P., Bose, D., Vandehey, M., Petritsch, T., Proulx, F., & Chang, J. (2012). Guidelines for providing access to public transportation stations (TCRP Report 153). Available: https://nacto.org/wp-content/uploads/2016/04/1-4_Coffell-et-al_Guidelines-for-Providing-Access-to-Public-Transportation-Stations_TCRP-153_2012.pdf (accessed February 2026).

Transportation Design and Use Safety Hazards

Significance Criterion c:	Would the proposed project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Impact TRA-3 THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY INCREASE ROADWAY HAZARDS BECAUSE OF A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Construction of the proposed project is anticipated to utilize existing parking lots in the project site, which would reduce the amount of heavy construction vehicles using adjacent roads. During construction, truck deliveries would avoid adding heavy duty truck traffic on local streets by using I-80. However, construction equipment would need to access the project site via University Avenue and Seawall Drive. The use of these roadways would be temporary and standard safety procedures would be established as part of the Berkeley permitting process, which typically requires a traffic control plan (as discussed under Impact TRA-1) that would be required to comply with Caltrans standards and the California Manual on Uniform Traffic Control Devices.[14,15] In addition, the City of Berkeley maintains standards relating to pedestrian access during construction projects, which would ensure safe and accessible paths of travel for pedestrians throughout the construction period.[16] Therefore, construction impacts related to roadway design safety hazards would be less than significant.

Operation

UNIVERSITY AVENUE AND SEAWALL DRIVE DESIGN AND USE SAFETY

The project would include improvements along University Avenue and Seawall Drive. As described in further detail in Chapter 2, *Project Description*, these improvements would not change the overall circulation of these roadways but, rather, would improve the roadways compared to existing conditions. The proposed project includes new facilities for transit, bicycle, and pedestrian users. The proposed project includes features to separate pedestrians and bicyclists from vehicles, compared to existing conditions. In addition, the improvements to AC transit bus stops would follow similar existing configurations and would not create any new safety hazards. This would minimize geometric design hazards for all types of transit utilizing the project site. In addition, the roadway design would be subject to the City of Berkeley Roadway Design Standards.

The proposed project would introduce a new use, compared to existing conditions. Bicyclists, pedestrians, transit users, and motorists would bike, walk, take the bus, and drive to the project site to access the ferry service. While this would be a new use compared to existing conditions, people already access the site via bus, bike, walking, or car. The proposed project would include safety

[14] Berkeley, City of. 2025. Engineering Permits. Available: https://berkeleyca.gov/construction-development/permits-design-parameters/permit-types/engineering-permits. (accessed June 2025)
[15] Caltrans. 2026. California Manual on Uniform Traffic Control Devices. Available: https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/2026/camutcd-2026-all.pdf (accessed February 2026).
[16] Berkeley, City of. 2026. Pedestrian Access During Construction Projects. Available: https://berkeleyca.gov/sites/default/files/2022-03/PedestrianAccess.pdf (accessed January 2026).

features that would overall improve safety, including crosswalks, wayfinding signage, and bicycle/pedestrian facilities separated from roadways.

Because the roadways associated with the project would comply with these standards and because the project would not introduce new features that could create a hazard, roadway design and use safety impacts would be less than significant.

VEHICLE QUEUING DESIGN SAFETY

Queuing is the line of roadway vehicles that forms when a system, like a traffic signal, toll booth, intersection, or ramp cannot process vehicles all at once. This creates a line or "queue" of vehicles waiting to be served or to move through, causing delays. Vehicle queuing is considered, in this analysis, in the context of whether it could result in a transportation safety hazard.

As described in detail in the TIA (Appendix F), the intersection of University Avenue and Frontage Road is currently operating at unacceptable level of service standards, based on standards established by the City of Berkeley. Because the intersection of University Avenue and Frontage Road are located near on- and off-ramps for I-80, additional roadway vehicles associated with traversing to and from the proposed site to utilize ferry and recreational uses could result in additional operational queuing on University Avenue and potentially on the I-80 on- and off-ramps.

The queuing analysis performed for this project, and described in detail in Appendix F, indicates that the intersection of University Avenue and Frontage Road will continue to operate at LOS F with implementation of the project. The project will result in an additional 12 seconds delay in AM peak hour conditions and an additional 25 seconds delay in the PM peak hour conditions, resulting in one additional vehicle to the queue. The addition of one vehicle to the queue during the AM and PM peak hour would not be expected to substantially increase roadway hazards because of a geometric design feature or incompatible use. Due to the short turn pocket (4 vehicles), the westbound lane queues do spill back into one of the two through lanes over the University Avenue bridge. However, due to the presence of an additional through lane on the University Avenue bridge, through and right-turn traffic can continue past the queue. With regard to I-80 on and off ramps, no project trips are expected from the northbound left I-80 off-ramp to the site, as Frontage Road offers a more convenient route, especially during peak hours. Traffic entering from the I-80 off-ramp may also experience temporary blockages as the queue begins to spill back. Drivers making northbound left turns from the ramp require that space be kept clear of the westbound queue on University Avenue. In summary, the queuing that occurs at the University Avenue westbound lane is avoided due to the presence of an additional through lane, and the queuing that occurs at the I-80 off ramp is addressed by the striped stop bar. Therefore, no improvements are warranted as a part of the project. It should be noted that the separate University Avenue Overcrossing project includes installing a roundabout at the intersection of University Avenue and Frontage Road.[17,18] Operational transportation safety design impacts related to queueing would be less than significant.

FERRY VESSELS USE SAFETY

The project would introduce ferry vessels operating on the project site. In the unlikely event of a loss of propulsion on an electric vessel, multiple layers of redundancy would be in place to prevent a complete failure. The vessel would be equipped with independent electric motors and multiple

[17] A mitigated negative declaration was filed with SCH number 2018112052 for environmental clearance for two roundabouts including one at University Avenue and Frontage Road. University Avenue Overcrossing Vertical Clearance Project.
[18] Caltrans. 2019. Notice of Determination. University Avenue Overcrossing Vertical Clearance Project. Available: fHwCGxZdS-rrOfZQMZo-ozJFC4X5es2pDIvzXOEw5p5sEhRK3X4rbRyvcWskBPI6501fvBvbPQGuWQ-K0 (accessed February 2026).

battery banks, each with isolated controls and protection systems, ensuring that a single point of failure does not disable the entire system. Crew members are trained regularly to respond to such scenarios, including loss of propulsion drills. In the rare case that all propulsion is lost, the crew would deploy the vessel's anchor to maintain position and initiate protocols to ensure passenger safety.

WETA and its contracted operator proactively monitor weather forecasts. In the event of an approaching storm, senior staff coordinate with vessel crews to evaluate the safety of continuing ferry service on affected routes. This assessment includes real time monitoring of U.S. Coast Guard advisories and any issued small craft warnings. Service decisions are made with an abundance of caution, prioritizing passenger and crew safety above all else.

It should be noted that other marine vessels regularly operate near the project site, given that the project site is next to an active Marina. Similar to other vessels, ferry vessels would operate safely. For example, when approaching the ferry floats, ferry vessels would slow down significantly and adhere to speed limits and docking safety procedures.

For these reasons, the operation of ferry vessels would not increase transportation safety use hazards due to the introduction of a new use on the project site (i.e., operation of ferry vessels).

Mitigation Measures

No mitigation would be required.

Level of Significance

Less Than Significant

Emergency Vehicle Access

Significance Criterion d:	Would the proposed project result in inadequate emergency access?

Impact TRA-4 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT HAVE THE POTENTIAL TO RESULT IN INADEQUATE EMERGENCY ACCESS. NO IMPACT WOULD OCCUR.

Construction

Impacts related to inadequate emergency access are limited to operational impacts. During construction, two-way roadway travel would be maintained, and construction-related roadway detour signage would be provided. Therefore, no respective construction impacts would occur with regard to emergency access.

Operation

Emergency roadway vehicle access to the project site would be via University Avenue. The proposed project would result in upgrades to University Avenue but would not introduce new features (i.e., turning angle or radius) that would impede emergency access. Emergency vehicles would be able to access the project site in the same current pattern. In addition, the design of the new pier and breakwater would allow for emergency vehicles to drive on the proposed pier and breakwater.

Similarly, as described in Section 3.7, *Hazards & Hazardous Materials*, the proposed project would not result in physical changes that could interfere with or impair emergency response or evacuation. One of the goals of the project is to provide an alternative form of transit for commuter travel that

would be able to continue to operate in the event of a natural- or human-made emergency event or catastrophe that disables roads, other transit, bridges, or tunnels. Given the Bay Area's susceptibility to earthquakes and proximity to water, the new ferry service would provide a viable transit option that would be expected to be able to continue operation after such an emergency event. The proposed roadway and site access modifications would comply with emergency access requirements, and the project would provide a new transit option in the event of an emergency event. Therefore, no operational impact would occur with regard to emergency access.

Mitigation Measures

No mitigation would be required.

Level of Significance

No Impact

3.12.5 Cumulative Impacts

The geographic scope of the cumulative transportation analysis depends on the specific transportation impact. For consistency with circulation system programs related to roadways, transit, and pedestrian/bicycle facilities, the cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*). For VMT, the geographic scope is the City of Berkeley; however, a cumulative list of City of Berkeley projects or projections for the City is not used because the project results in a reduction in VMT and would not contribute to a cumulative VMT impact. For Safety Hazards and Emergency Vehicle Access, these kinds of impacts are site specific. Therefore, this analysis considers cumulative projects that are in the immediate vicinity of the project site.

Consistency with Circulation System Programs

A cumulative impact related to consistency with circulation system programs would be significant if the cumulative projects in the Berkeley Waterfront had certain inconsistencies that when added together resulted in a cumulative inconsistency with pertinent goals and polices related to the roadway network and transit, bicycle, and pedestrian facilities.

Overall, the cumulative projects listed in Table 3-1 would either not conflict with polices related to safety and multimodal uses, or would contribute to a more pedestrian and bicycle friendly environment. For example, recreational improvements (e.g., D&E Dock Replacement, Tom Bates Regional Sports Complex Restroom & Community Space, etc.) would not meaningfully affect the roadway, transit, bicycle, or pedestrian system; and pathway or bikeway projects (César E. Chávez Pathway Project, Berkeley Waterfront Bike Park Conceptual Design Project, etc.) would contribute to a more pedestrian and bicycle friendly environment. The maximum development potential in the Draft Waterfront Specific Plan would also help to implement the policies in the General Plan, by locating development next to a planned transit facility (i.e., the ferry terminal associated with the proposed project). For these reasons, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to consistency with circulation system programs.

Vehicle Miles of Travel

Because the project would result in no impact related to VMT and would in fact reduce regional VMT, the project would not contribute to a cumulative impact related to VMT.

Safety Hazards and Emergency Vehicle Access

Cumulative impacts related to geometric design hazards and emergency access during construction could occur if other cumulative projects also affected University Avenue and Seawall Drive at the same time as the project, and resulted in additional lane closures. For example, the Berkeley Waterfront Bike Park Conceptual Design Project is located adjacent to a portion of University Avenue within the project site.[19] The timing of construction for the Berkeley Waterfront Bike Park Conceptual Design Project is not currently known; however, if it occurred at the same time as the Berkeley WTPF project and required additional lane closures, there could be a cumulative effect on the ability of emergency vehicles to access the Berkeley Waterfront. Nonetheless, the City of Berkeley Municipal Code Section 16.18.250 states that "at no time shall a public street be closed, or the use or access thereof denied the general public, or to adjacent private property without the written permission of the Assistant City Manager for Public Works." Any lane closures or impacts on public roadways like University Avenue and Seawall Drive from the project, or cumulative projects would require a permit from the City of Berkeley.[20] Because the City of Berkeley regulates the encroachment on roadways through a permitting process that considers potential impacts on roadways, including requirements for traffic control plans, and because the project would require the implementation of a traffic control plan, cumulative projects in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to geometric design hazards and emergency access during construction.

Cumulative operational impacts on hazards related to University Avenue and Seawall Drive would only occur if there were also planned improvements on these roadways. Because there are no cumulative projects that would affect the operation of these roadways, there would be no cumulative impact related to safety hazards on these roadways. Similarly, there are no cumulative projects that would add marine vessel traffic near the project site. For that reason, there would be no cumulative impact related to the operation of ferry vessels.

Cumulative operational impacts on hazards related to queuing could occur if additional projects resulted in additional traffic that could increase the queuing at the intersection of University Avenue and Frontage Road during certain times of day, resulting in a safety hazard. The maximum development potential in the Draft Waterfront Specific Plan cumulative project could add traffic that could increase queuing, and could result in a potentially significant cumulative impact. As demonstrated above, the project contribution to this significant cumulative impact would not be considerable, and no mitigation is warranted.

Operation of the project would result in no impact on emergency vehicle access because the project would maintain existing and adequate emergency access, and provide a new water-based emergency transportation service. Because no impact would occur, operation of the project would not contribute to a cumulative impact related to emergency access.

Overall Level of Cumulative Significance

Less Than Significant with Mitigation

[19] Berkeley, City of. 2023. Waterfront Bike Park, Final Concept Design. April 4. Available: https://berkeleyca.gov/sites/default/files/documents/Presentation_University%20Ave%20Bike%20Park_Conceptual%20Design%202023%200403_0.pdf (accessed June 2025).
[20] Berkeley, City of. 2025. Engineering Permits. Available: https://berkeleyca.gov/construction-development/permits-design-parameters/permit-types/engineering-permits (accessed June 2025).

3.13 Tribal Cultural Resources

3.13.1 Introduction

This section describes the existing setting related to tribal cultural resources within the project site and adjacent areas as well as the relevant regulatory framework. This section also analyzes the potential impacts on tribal cultural resources anticipated to result from implementation of the proposed project. Information in this section is based on California Assembly Bill 52 consultation, conducted by the City of Berkeley and consulting Tribes.

3.13.2 Environmental Setting

Tribal Cultural Resources Definition

The term "tribal cultural resources" under CEQA includes sites, features, places, or objects that are of cultural value to one or more California Native American Tribes.

Overall Tribal Cultural Setting

The following is a brief overview of the ethnographic background of the project site and adjacent areas, including the rest of the City of Berkeley and general San Francisco Bay Area. This section is not intended to be a comprehensive review of the current resources present; rather, it serves as a general overview. Further details can be found in ethnographic studies, mission records, and major published sources.

Ethnographic Background

Ethnography is the description of the customs of individual peoples and cultures. The City of Berkeley is located in the traditional territory of the Ohlone (or Costanoan) people. According to early ethnographers, Ohlone territory extends along the California coast from the point where the San Joaquin and Sacramento rivers merge into the San Francisco Bay southward to Point Sur. Their inland boundary was limited to the interior Coast Ranges. The Ohlone language belongs to the Penutian family, with several distinct dialects throughout the region.[1] Ethnographers divided it into eight regional dialects: Karkin, Chochenyo, Ramaytush, Awaswas, Taymen, Mutsun, Rumsen, and Chalon.[2,3]

The pre-contact Ohlone were semi-sedentary with a settlement system characterized by base camps and seasonal reserve camps composed of tule reed houses with thatched roofs made of matted grass.[4,5] Just outside base camps, large sweat houses were built into the ground near stream banks used for spiritual ceremonies.[6,7] Villages were divided into small polities, each of which was

[1] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[2] Milliken, Randall; Laurence H. Shoup; and Beverly R. Ortiz. 2009. Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors. Yesterday and Today. Prepared for National Park Service, Golden Gate National Recreation Area, San Fransico, California. Available: https://npshistory.com/publications/goga/ohlone-indians.pdf (accessed September 2024).
[3] Jones, Doug. 2015. Ritual and Religion in the Ohlone Cultural Area of Central California. Master's Thesis, Department of Anthropology. San Jose: San Jose State University.
[4] Schick. 1994. The Ohlone and the Oak Woodlands: Cultural adaptation in the Santa Clara Valley. Research Manuscript No. 4.
[5] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[6] Jones, Doug. 2015. Ritual and Religion in the Ohlone Cultural Area of Central California. Master's Thesis, Department of Anthropology. San Jose: San Jose State University.
[7] Schick. 1994. The Ohlone and the Oak Woodlands: Cultural adaptation in the Santa Clara Valley. Research Manuscript No. 4.

governed by a chief responsible for settling disputes, acting as a war leader during times of conflict, and supervising economic and ceremonial activities.[8,9] Social organization appeared flexible to ethnographers, and any sort of social hierarchy was not apparent to mission priests.[10]

Archaeological investigations along with ethnographic evidence helped inform Ohlone mortuary rituals. Cemeteries were set away from villages and visited during the annual Mourning Anniversary.[11] Ceremonial human grave offerings might include Olivella beads, as well as tools like drills, mortars, pestles, hammerstones, bone awls, and utilized flakes.[12] Ohlone mythology includes animal characterization and animism, which was the basis for several creation narratives. Ritually burying animals, such as a wolf, squirrel, deer, mountain lion, gray fox, elk, badger, grizzly bear, blue goose, and bat ray, was commonly practiced. Similar to human burials, ceremonial offerings were added to ritual animal graves like shell beads, ornaments, and exotic goods.[13,14,15]

Ohlone food sources were based on hunting, gathering, and fishing.[16,17] Larger animals, like bears, might be avoided, but smaller game was hunted and snared on a regular basis.[18] The acorn was an important staple and was prepared by leaching acorn meal in openwork baskets and in holes dug into the sand.[19,20] The Ohlone also practiced controlled burning to facilitate plant growth.[21,22] During specific seasons or in times of drought, the reserve camps would be utilized for gathering seasonal food and accessing food storage.[23] The Ohlone fished from tule reed canoes using nets and gorge hooks.[24] Mussels were a particularly important food resource. Sea mammals such as sea lions and seals were hunted, and beached whales were consumed.[25]

[8] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[9] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[10] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[11] Leventhal, Alan and Diane DiGiuseppe. 2009. Analysis of the Stone, Bone and Shell Artifacts from CA-SCL-869. In Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of a Middle Period Ohlone Indian Cemetery, Katwáš Ketneyma Waréeptak (The Four Matriarchs Site) CA-SCL-869, Located at 5912 Cahalan Avenue, Fire Station # 12 San Jose, Santa Clara County, California. City of San Jose: Department of Public Works.
[12] Leventhal, Alan and Diane DiGiuseppe. 2009. Analysis of the Stone, Bone and Shell Artifacts from CA-SCL-869. In Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of a Middle Period Ohlone Indian Cemetery, Katwáš Ketneyma Waréeptak (The Four Matriarchs Site) CA-SCL-869, Located at 5912 Cahalan Avenue, Fire Station # 12 San Jose, Santa Clara County, California. City of San Jose: Department of Public Works.
[13] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[14] Field, Les W. and Alan Leventhal. 2003. What Must It Have Been Like!: Critical Considerations of Precontact Ohlone Cosmology as Interpreted through Central California Ethnohistory. Wicazo SA Review, 18(2): 95–126.
[15] Jones, Barbara L. 2015. Mythic Implications of Faunal Assemblages from Three Ohlone Sites. Master's Thesis, Department of Anthropology. San Francisco: San Francisco State University.
[16] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[17] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[18] Schick. 1994. The Ohlone and the Oak Woodlands: Cultural adaptation in the Santa Clara Valley. Research Manuscript No. 4.
[19] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[20] Levy, Richard. 1978. Costanoan Handbook of North American Indians, Vol. 8, California, edited by R. F. Heizer, pp 485–495. Washington, D.C.: Smithsonian.
[21] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[22] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[23] Schick. 1994. The Ohlone and the Oak Woodlands: Cultural adaptation in the Santa Clara Valley. Research Manuscript No. 4.
[24] Schick. 1994. The Ohlone and the Oak Woodlands: Cultural adaptation in the Santa Clara Valley. Research Manuscript No. 4.
[25] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.

Seven Franciscan missions were built in Ohlone territory in the late 1700s, and members of the Ohlone group were eventually brought into the mission system.[26,27,28] After the establishment of the missions, Ohlone population dwindled from roughly 10,000 people in 1770 to 1,300 by 1814. [29] In 1973, the population of people with Ohlone descent was estimated at fewer than 300. The descendants of the Ohlone united in 1971 and have since arranged political and cultural organizations to revitalize aspects of their culture.[30] Today, the descendant communities of the Ohlone can be found as part of multiple tribes throughout northern and central California.

Existing Tribal Cultural Resources

Tribal Cultural Resources within and Adjacent to Project Site

As part of its tribal cultural resource identification process pursuant to California Assembly Bill (AB) 52, on April 29, 2025 the City of Berkeley sent letters via certified mail to 27 Native American tribal contacts identified by the Native American Heritage Commission (NAHC) as being traditionally and culturally affiliated with the project site and adjacent areas. The tribal contacts included the following:

- **Amah Mutsun Tribal Band**
  - Valentin Lopez, Chairperson
  - Ed Ketchum, Vice Chairperson
- **Amah Mutsun Tribal Band of Mission San Juan Bautista**
  - Michelle Zimmer, Senior Cultural Monitor & Consultant
  - Shelby Brown, Senior Cultural Monitor & Consultant, Councilwoman
  - Gary Zimmer, Senior Cultural Monito & Consultant
  - Christopher Zimmer, Senior Cultural Monitor & Consultant, Councilman
  - Irene Zwierlein, Chairperson
- **Confederated Villages of Lisjan Nation**
  - Cheyenne Gould, Tribal Cultural Resource Manager
  - Deja Gould, Language Program Manager
  - Corrina Gould, Chairperson
- **Costanoan Rumsen Carmel Tribe**
  - Henry Muñoz, Cultural Resource Officer
  - Carla Muñoz, Tribal Council
  - Samuel Rodriguez, Cultural Resource Officer
- **Guidiville Rancheria of California**
  - Michael Derry, Historian
  - Bunny Tarin, Tribal Administrator

[26] Kroeber, Alfred J., 1976. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78. Washington, D.C.: Smithsonian Printing Office.
[27] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[28] Milliken, Randall; Laurence H. Shoup; and Beverly R. Ortiz. 2009. Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors. Yesterday and Today. Prepared for National Park Service, Golden Gate National Recreation Area, San Fransico, California. Available: https://npshistory.com/publications/goga/ohlone-indians.pdf (accessed September 2024).
[29] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.
[30] Skowronek. 1998. Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California.

- **Indian Canyon Mutsun Band of Costanoan**
  - Kanyon Sayers-Roods, MLD Contact
  - Ann Marie Sayers, Chairperson
- **Muwekma Ohlone Tribe of the SF Bay Area**
  - Richard Massiatt, Councilmember/MLD Tribal Representative
  - Charlene Nijmeh, Chairperson
- **Northern Valley Yokut/Ohlone Tribe**
  - Katherine Perez, Chairperson
  - Timothy Perez, Tribal Compliance Officer
- **Ohlone Indian Tribe**
  - Vincent Medina, Cultural Leader
  - Desiree Vigil, Tribal Historic Preservation Officer
  - Andrew Galvan, Chairperson
- **Wilton Rancheria**
  - Michelle St. Clair, Executive Director of Cultural Preservation
  - Steven Hutchason, Tribal Historic Preservation Officer
  - Cultural Preservation Department
- **Wuksachi Indian Tribe/Eshom Valley Band**
  - Kenneth Woodrow, Chairperson

On May 6, 2025, Stacey Nieves, Tribal Administrative Assistant for the Confederated Villages of Lisjan responded via email to request formal consultation under AB 52 for the project, as well as additional details about the project. The City began consultations with the Confederated Villages of Lisjan on July 30, 2025. The City provided additional information requested by the Tribe, including additional information about the scope of the project on August 6, 2025 and September 12, 2025. On December 11, 2025, Lucy Behan, Cultural Resources Manager for the Confederated Villages of Lisjan, requested an additional consultation meeting. On January 21, 2026, a second consultation meeting was completed. The City provided additional project information requested by the Tribe. The Confederated Villages of Lisjan confirmed consultation was closed on January 21, 2026.

On May 29, 2025, Alan Leventhal, Archaeologist and Ethnohistorian for the Muwekma Ohlone Tribe of the San Francisco Bay Area, responded via email to request formal consultation under AB 52 for the project. The City consulted with the Muwekma Ohlone Tribe of the San Francisco Bay Area on July 15, 2025. The Muwekma Ohlone Tribe identified the general vicinity, including waterside improvements, as sensitive for tribal cultural resources. On November 14, 2025, Mr. Leventhal confirmed via email that the tribe did not have any additional comments related to the project. Therefore, consultation with the Muwekma Ohlone Tribe of the San Francisco Bay Area concluded on November 14, 2025.

3.13.3 Regulatory Framework

Federal Regulations

No federal regulations are applicable to tribal cultural resources.

State Regulations

California Assembly Bill 52 – Effects on Tribal Cultural Resources

California Assembly Bill (AB) 52 expanded CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). AB 52 further states when feasible, the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe," and meets either of the following criteria:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k).
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments and with respect to the interests and roles of project proponents, it is the intent of AB 52 to accomplish all of the following:

1. Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.
2. Establish a new category of resources in CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.
3. Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.
4. Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated (because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources).
5. In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level

of required confidentiality concerning tribal cultural resources, early in the CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision-making body of the lead agency.

6. Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to CEQA.
7. Ensure that local and tribal governments, public agencies, and project proponents have information available, early in CEQA environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process.
8. Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources.
9. Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed in the jurisdiction of the lead agency.

Regional and Local Regulations

No regional or local regulations explicitly establish guidance for the treatment of tribal cultural resources.

3.13.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to Tribal Cultural Resources. Would the project:

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

   1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

      or

   2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Approach to Analysis

This evaluation focuses on whether implementation of the proposed project would impact tribal cultural resources. Both direct and indirect impacts of proposed project implementation were considered for this analysis below. Direct impacts are typically associated with construction and/or ground-disturbing activities, and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of a cultural resource or tribal cultural resource. Indirect impacts are typically associated with post-project implementation conditions that have the potential to alter or diminish the setting of a cultural resource or tribal cultural resource by introducing visual intrusions on existing sites that are considered undesirable.

In accordance with AB 52, the City of Berkeley sent letters via certified mail to 27 Native American tribal contacts identified by the NAHC and City of Berkeley as being traditionally and culturally affiliated with the project site and adjacent areas. Two contacts responded to request formal consultation under AB 52 for the project (the Confederated Villages of Lisjan and the Muwekma Ohlone Tribe of the SF Bay Area). The City consulted with the two Tribes that requested consultation. The results of this tribal consultation were utilized for the analysis of impact related to tribal cultural resources.

EIR Scoping Comments Consideration

This section also addressed comments received in response to the EIR NOP related to tribal cultural resources regulatory requirements. Tribal cultural resources are discussed under Impact TCR-1.

The Native American Heritage Commission (NAHC) stated that that the proposed project is subject to the requirements and provisions under Assembly Bill 52 (AB 52) for tribal cultural resources. Consultation required pursuant to AB 52 was carried out by the City of Berkeley.

Timothy Perez of the Nototomne Cultural Preservation recommended cultural sensitivity training to account for the ground disturbance proposed for the project. Mr. Perez further commented that he does not think an on-site monitor would be required given the scope of work anticipated. Cultural sensitivity training is included per Mitigation Measure TCR-1.

Lucy Gill of the Confederated Villages of Lisjan commented that she looks forward to an official request for consultation from the City of Berkeley. The City of Berkeley sent formal AB 52 notifications on April 29, 2025 and consulted with the Confederated Villages of Lisjan for this project.

Wilton Rancheria commented that the area is within the ancestral territory of the Wilton Rancheria, but the tribe has no recommendations. Wilton Rancheria requested to be informed of any project updates or changes. No project updates or changes have been proposed since receipt of this comment and the City of Berkeley sent Wilson Rancheria formal AB 52 notification on April 29, 2025.

Specific Threshold of Significance

For purposes of this analysis, the following threshold is used to evaluate the significance of tribal cultural resources impacts resulting from implementation of the proposed project.

- Physically damage, destroy, or otherwise adversely impact a site, feature, place, or cultural landscape with cultural value to a California Native American tribe and that is a resource determined by the City of Berkeley, in its discretion and supported by substantial evidence, to

be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Impact Evaluation

Tribal Cultural Resources

Significance Criterion a:	Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is either: 1) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or 2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Impact TCR-1 THE PROPOSED DISTURBANCES ON THE GROUND AND SEABED COULD ADVERSELY AFFECT TRIBAL CULTURAL RESOURCES. WITH ADHERENCE TO MITIGATION MEASURES AGREED UPON THROUGH AB 52 CONSULTATION, IMPACTS TO TRIBAL CULTURAL RESOURCES WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Construction

Proposed project construction would involve ground disturbing activities related to implementation of both landside and waterside improvements. There are no known tribal cultural resources at the project site; however, landside ground-disturbing activities, including trenching, grading, or other excavations occurring in non-fill soils, as well as waterside seabed disturbances from dredging have the potential to uncover, disturb, and destroy previously unidentified tribal cultural resources. Disturbance of any of these types of unknown tribal cultural resources during construction would be considered a potentially significant impact.

As described in Section 3.13.2, the City conducted consultation with two Native American Tribes as part of AB 52 consultation. As part of consultation with the Confederated Villages of Lisjan, the City provided project information requested by the Tribe, including information on the PG&E work, the dredging work, and draft mitigation measures. Following the meeting, on January 21, 2026, the City provided, at the Tribes request, confirmation that no ground disturbing work would occur east of Highway 80 and this information would be included in the EIR, and that a mitigation measure would be included in the EIR for the provision of a Native American monitor for all ground disturbing work occurring in non-fill materials. On the same day, the Confederated Villages of Lisjan provided the City with standard mitigation language requiring cultural resources sensitivity training, a Native American monitor for ground disturbing work in non-fill soils, and protocols for unanticipated discoveries. Both the City and Confederated Villages of Lisjan agreed that the mitigation measures included the Draft EIR shall be consistent with their standard mitigation, as well as the inclusion of additional text in the appropriate EIR sections and that consultation could be closed.

As part of consultation with the Muwekma Ohlone Tribe of the San Francisco Bay Area, the City provided to the Tribe on September 12, 2025, proposed mitigation measures to address the concerns of the Tribe regarding unidentified Tribal Cultural Resources, including cultural sensitivity

training, tribal monitoring, and the instillation of signage that acknowledges Native history. On November 14, 2025, Mr. Leventhal confirmed via email that the tribe did not have any additional comments related to the project. Therefore, consultation with the Muwekma Ohlone Tribe of the San Francisco Bay Area concluded on November 14, 2025.

Mitigation Measures TCR-1 through TCR-5, as developed through AB 52 consultation, would require cultural sensitivity training, signage, tribal monitoring, evaluation of unanticipated discoveries, and protocols for the treatment of Native American human remains during project construction activities. With adherence to the requirements identified in Mitigation Measures TCR-1 through TCR-5, unknown tribal cultural resources would be protected. Therefore, construction impacts related to tribal cultural resources would be less than significant with mitigation.

Operation

Operation would not involve ground disturbance. Therefore, there would be no operational impact related to tribal cultural resources.

Mitigation Measures

MITIGATION MEASURE TCR-1: CONDUCT CULTURAL RESOURCES SENSITIVITY TRAINING PRIOR TO CONSTRUCTION

Prior to the start of any ground disturbing activities, including excavation on land and dredging in water, the City of Berkeley (City) or its contractor(s) shall provide all construction personnel conducting ground disturbing activities, with cultural resources sensitivity training. The training will be conducted in person, or via a video meeting, to be viewed by all construction personnel involved in ground disturbing activities prior to the start of construction. The training will be developed and conducted in coordination with locally affiliated California Native American Tribe(s) that have participated in consultation with the City for the project (referred to hereafter as "Consulting Tribes"). Cultural resources sensitivity training will include relevant information regarding sensitive tribal cultural resources, applicable regulations including consequences of violation, and protocols for unanticipated discoveries and avoidance. The training will emphasize the requirement of confidentiality and culturally appropriate treatment of any finds of significance to Native Americans.

MITIGATION MEASURE TCR-2: PROVIDE SIGNAGE ACKNOWLEDGING NATIVE AMERICAN HISTORY PRIOR TO OPERATION

Prior to operation, the City shall provide signage at the project site that acknowledges Native American history and importance of the area. Language and design for the signage shall be developed in consultation with Consulting Tribes, including the Muwekma Ohlone Tribe. The location of the signage shall be thoughtfully integrated into the project design and shall be respectful of Native American culture and values. Photographs of human remains shall not be depicted on the signage. The City or its contractor(s) shall incorporate the location and content of the signage prior to Final Design. Consulting Tribes shall be given the opportunity to comment on the signage prior to the Final Design being approved by the City.

MITIGATION MEASURE TCR-3: CONDUCT NATIVE AMERICAN MONITORING DURING CONSTRUCTION

Prior to the start of any ground disturbing activities, including excavation and grading on land not previously covered by fill and any dredging in water, the City or its contractor(s) shall retain a Native American monitor(s) from a Consulting Tribe(s) for purposes of construction monitoring. If multiple

Consulting Tribes request to monitor, the City will establish a rotating schedule to include all tribes requesting monitoring. The City shall provide monitors with at least 48 hours' notice prior to the start of any ground disturbing activity that requires monitoring. Native American monitors shall observe project-related ground disturbing activities located in previously undisturbed areas (i.e., areas not consisting of fill) and provide daily monitoring logs to the City detailing construction observed and results at minimum (confidential information can be redacted at the monitor's discretion). Monitors shall have the authority to temporarily halt work in the event of discovery or a potential Tribal Cultural Resource.

If suspected Tribal Cultural Resources are encountered at any point during ground disturbing activities, work within a 100-foot radius shall halt and the find shall be evaluated for significance as required by Mitigation Measure TCR-4. The 100-foot radius may be reduced or expanded as appropriate by the monitor if conditions, such as expanded boundaries or increased sensitivity, warrant the reduction or expansion. Native American monitoring may be reduced to spot-checking or eliminated at the discretion of the monitor, in coordination with the City, as warranted by conditions such as encountering fill soils, bedrock, or negative findings during the first 60 percent of grading. If monitoring is reduced to spot-checking, spot-checking shall occur, at minimum, when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). Ground disturbing activities shall not be contingent on the presence or availability of a Native American monitor, and ground disturbing may proceed regardless of whether or not a monitor is present on site.

MITIGATION MEASURE TCR-4: EVALUATE DISCOVERED TRIBAL CULTURAL RESOURCES AND IMPLEMENT RESULTING RECOMMENDATIONS DURING CONSTRUCTION

If suspected Tribal Cultural Resources are encountered at any point during ground disturbing activities, work within a 100-foot radius shall halt and Consulting Tribes shall evaluate the suspected resource for significance as a Tribal Cultural Resource. If the find is archaeological in nature, then the City or its contractor(s) shall also retain a qualified archaeologist to respond and evaluate significance as required by Mitigation Measure CUL-1. The City shall review the significance evaluation of the Tribal Cultural Resource and determine whether the find meets the criteria in California PCR Section 21074. If a discovered Tribal Cultural Resource is determined by the City to meet the criteria in California PRC Section 21074, avoidance and preservation in place shall be the preferred method of mitigating impacts and the City shall first consider the measures in California PRC Section 21084.3(b) in consultation with Consulting Tribes. If significant impacts to the resource cannot be avoided via project redesign, then the City shall work with Consulting Tribes to develop other appropriate measures to mitigate impacts. This could include, but would not be limited to, data recovery, installation of a permanent plaque or mural to inform the public, interpretive and/or educational elements, and/or landscaping to include native plants. Work in the area may resume following the determination by the City and completion of any applicable measures mitigating impacts to the Tribal Cultural Resource, if any.

MITIGATION MEASURE TCR-5: PROVIDE RESPECTFUL TREATMENT OF NATIVE AMERICAN HUMAN REMAINS UPON UNANTICIPATED DISCOVERY AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

In addition to adherence to the California Health and Safety Code Sections 7050.5, should human remains be identified during construction, no photographs shall be taken without express permission from the on-site Native American Monitor, and no invasive scientific testing shall be completed without consultation with the NAHC appointed Most Likely Descendent. Any bone that

cannot be identified as faunal shall be treated as human remains until positively identified as being non-human by the coroner and/or a qualified archaeologist, as appropriate. The Most Likely Descendant shall provide recommendations for reburial, and human remains and associated funerary items shall be reburied by Tribal representatives in a location agreed upon between the Tribe and the City. Any reburial location shall be accessible to Tribal members in perpetuity, not be subject to further disturbance, and kept confidential.

Level of Significance

Less Than Significant with Mitigation

3.13.5 Cumulative Impacts

The geographic scope of the cumulative tribal cultural resources analysis is the project site and adjacent areas within one mile. The cumulative analysis considers the nearby past, present, and reasonably foreseeable future plans and projects listed in Table 3-1 (refer to Chapter 3, *Environmental Impact Analysis*) located in Berkeley in addition to the proposed project.

Tribal Cultural Resources

As documented in this section of this EIR, the vicinity of the project is sensitive for tribal cultural resources. Similar to the proposed project, future cumulative projects could result in similar impacts on unknown tribal cultural resources. Like the proposed project, other cumulative projects would also be subject to AB 52 requirements. Nonetheless, cumulative destruction, damage, or alteration of tribal cultural resources would represent a potentially significant cumulative impact. However, the proposed project would include implementation of TCR-1 through TCR-5, which establishes protocols for unanticipated discovery and protection of tribal cultural resources during construction, and requires signage at the project site that acknowledges Native American history and importance of the area. Given the implementation of mitigation that addresses comments from Native American Tribes provided during the AB 52 consultation process, and that other cumulative projects would also be required to comply with AB 52, the proposed project contribution to a potentially significant cumulative impact would be less than considerable. Therefore, the cumulative impact would be less than significant.

Overall Level of Cumulative Significance

Less Than Significant

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3.14 Utilities and Service Systems

3.14.1 Introduction

This section describes the existing setting related to utilities and service systems (water, wastewater, stormwater, electricity, natural gas, telecommunications, and solid waste) within the respective utility service areas, which cover the City of Berkeley and the project site, as well as the relevant regulatory framework. This section also evaluates potential impacts to such utilities and service systems that could result from implementation of the proposed project. Information in this section is based on information from the East Bay Municipal Utility District (EBMUD)[1], the City of Berkeley Public Works Department[2], the San Francisco Bay Regional Water Quality Control Board (SFRWQCB)[3], the City of Berkeley Community GIS Portal[4], Ava Community Energy, Pacific Gas & Electric Company (PG&E)[5], the Berkeley Transfer Station, and the California Department of Resources, Recycling and Recovery (CalRecycle) Solid Waste Information System Database.[6]

3.14.2 Environmental Setting

Table 3.14-1 provides an overview of the existing utilities and service systems infrastructure and facilities that connect to and/or serve the project site.

Table 3.14-1 Overview of Existing Infrastructure and Facilities at and Connecting to the Project Site

Description	Location
Water supply pipelines	Potable water pipelines are within the Project site, with appurtenances including valves and meters, and connections to existing irrigation and restroom facilities.
Wastewater mains	City of Berkeley sewer mains are located underground throughout the Project site, with lift stations sited strategically to collect municipal sewage from within the Project site and convey it to EBMUD's North Interceptor.
Stormwater drains	Culverts, ditches, and infiltration areas are incorporated throughout the Project site to guide surface runoff away from roadways and structures.
Electric power distribution lines	Existing distribution lines are in underground electrical ducts buried in existing roadways within the Project site, including University Avenue. Supporting facilities including PG&E pad-mounted transformers are located within the Project site.
Natural gas transmission pipelines	No natural gas transmission pipelines were identified in the Project site.
Telecommunication lines	Existing telecommunications lines are located in underground electrical ducts, co-located with electric power distribution lines within existing roadways.
Solid Waste	City of Berkeley trash receptacles are located within the Project site.

EBMUD = East Bay Municipal Utility District; PG&E = Pacific Gas and Electric Company

[1] Data from EBMUD informed the discussion on water supply.
[2] Data from the City of Berkeley Public Works Department informed the discussion on wastewater collection.
[3] Data from the SFRWQCB informed the discussion on stormwater.
[4] The Community GIS Portal informed the discussion on existing telecommunications facilities and infrastructure.
[5] Data from Ava Community Energy and PG&E informed the discussion on existing energy infrastructure and supply.
[6] Data from the Berkeley Transfer Station and CalRecycle informed the discussion on existing solid waste infrastructure.

Water

Water Provider and Service Area

Water supply and treatment serving the City of Berkeley and the project site is provided by EBMUD, which has a service area for water supply of approximately 332 square miles, encompassing incorporated and unincorporated portions of Alameda County and Contra Costa County. The EBMUD water service area extends from Crockett southward to San Lorenzo and from the San Francisco Bay eastward to Walnut Creek.

Water Sources

EBMUD's primary water supply source is the Mokelumne River watershed originating in the Sierra Nevada Mountains. Water is entrained within Pardee Reservoir, which is formed by Pardee Dam and located upstream of Camanche Dam, and conveyed via gravity through the Mokelumne Aqueducts across the Sacramento-San Joaquin River Delta to local storage and treatment facilities and reservoirs in the eastern areas of the San Francisco Bay Area. After treatment, water is distributed to EBMUD customers in incorporated cities and unincorporated communities in Alameda and Contra Costa counties. Based on the historical average, approximately 90 percent of raw water entering EBMUD's system originates from the Mokelumne River watershed, and approximately 10 percent originates as runoff from protected watershed lands in the eastern San Francisco Bay Area.[7]

EBMUD also maintains an emergency standby reserve 180-day (6-month) water supply in its terminal reservoirs, for use in the event of outages or failure of one or more of the Mokelumne Aqueducts. The terminal reservoir system has a total capacity of 151,670 acre-feet.

In addition to its primary water supply sources including the Mokelumne River, East Bay Area watershed runoff, and CVP water, as summarized above, EBMUD also produces recycled water to supplement other sources. EBMUD treats secondary effluent from its Main Wastewater Treatment Plant (WWTP) at the East Bayshore Recycled Water Project facilities, producing recycled water that is used for compatible non-potable purposes to reduce reliance on high-quality potable water. EBMUD also partners with other agencies to increase the geographic coverage of recycled water in its service area, including West County Wastewater (WCW) for the North Richmond Water Recycling Plant and the Richmond Advanced Recycled Expansion Water Project, both of which serve the Chevron Richmond refinery. In summer months, EBMUD often uses all of the effluent from the WCW facility, avoiding the need to discharge that effluent to the San Francisco Bay while also increasing available recycled water supply. In calendar year 2020, EBMUD provided approximately 8.3 MGD of recycled water to its customers.[8]

EBMUD also conducts a Recycled Water Truck Program, providing recycled water at no charge for construction and other non-potable purposes. Recycled water for trucks is available at EBMUD's Main WWTP in west Oakland and may only be used within EBMUD's service area.

[7] EBMUD. 2021. Urban Water Management Plan 2020. Available: https://www.ebmud.com/download_file/force/9151/735?UWMP-2020-FINAL-bookmarks.pdf. (accessed March 2025).
[8] EBMUD. 2021. Urban Water Management Plan 2020. Available: https://www.ebmud.com/download_file/force/9151/735?UWMP-2020-FINAL-bookmarks.pdf. (accessed March 2025).

Water Supply

EBMUD evaluated several different climate scenarios to inform the assessment of water supply and demand for its 2020 Urban Water Management Plan (UWMP). The scenarios evaluated include a Base Condition, representing EBMUD's current operations based upon historic hydrology; a High Water Demand Scenario, which assessed the upper-end of water demand assumptions; and an Extreme Drought Scenario, which reflects a reduced allocation of CVP supplies to 25 percent in drought years two and three of a five-year drought planning scenario. EBMUD assessed the Base Condition, High Water Demand Scenario, and Extreme Drought Scenario for a five-year drought period, to compare anticipated water demands against supply availability and inform planning for future water supply projects.[9]

Table 3.14-2 provides an overview of EBMUD water supply demand assessment. This table shows that EBMUD anticipates having sufficient water supply available to meet demand under normal-year and single dry-year conditions with voluntary rationing in place, while water shortages are projected in certain dry years, including with mandatory rationing in place.

Table 3.14-2 EBMUD Water Supply (MGD*) Demand Assessment, 2020-2050[10]

	2020	2025	2030	2035	2040	2045	2050
Normal Water Year							
Supply – Mokelumne River	>181	>186	>190	>194	>201	>209	>218
Total Supply	>181	>186	>190	>194	>201	>209	>218
Demand – PLOD[1]	181	186	190	194	201	209	218
Need for Water (TAF)**	0	0	0	0	0	0	0
Single Dry Year							
Supply – Mokelumne River	121	126	129	132	138	144	151
Supply – Central Valley Project[2]	60	60	60	60	60	60	60
Total Supply	181	186	189	192	198	204	211
Demand – PLOD	181	186	190	194	201	209	218
Supply-Demand (difference)	*0*	*0*	*-1*	*-2*	*-3*	*-5*	*-7*
Voluntary Rationing [3]	*0%*	*0%*	*1%*	*1%*	*2%*	*2%*	*3%*
Need for Water (TAF)[4]	0	0	0	0	0	0	0
Second Dry Year							
Supply – Mokelumne River	82	86	89	92	98	104	111
Supply – Central Valley Project	74	74	74	74	74	74	74
Total Supply	156	161	164	167	172	178	185
Demand – PLOD	181	186	190	194	201	209	218
Supply-Demand (difference)	-25	-25	-26	-27	-29	-31	-33
Mandatory Rationing	*13%*	*13%*	*13%*	*14%*	*14%*	*14%*	*15%*
Need for Water (TAF)	0	0	0	0	0	0	0

[9] EBMUD. 2021. Water Shortage Contingency Plan 2020. Available: https://www.ebmud.com/download_file/force/9150/735?WSCP-2020-FINAL.pdf. (accessed March 2025).
[10] EBMUD. 2021. Water Shortage Contingency Plan 2020. Available: https://www.ebmud.com/download_file/force/9150/735?WSCP-2020-FINAL.pdf. (accessed March 2025).

	2020	2025	2030	2035	2040	2045	2050
Third Dry Year							
Supply – Mokelumne River	141	145	146	145	132	118	105
Supply – Central Valley Project	12	12	12	12	12	12	12
Total Supply	153	157	158	157	144	130	117
Demand - PLOD	181	186	190	194	201	209	218
Supply-Demand (difference)	-28	-29	-32	-37	-57	-79	-101
Mandatory Rationing	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*
Need for Water – Base Condition (TAF)	0	0	0	0	28	52	75
Need for Water - High Demand Scenario (TAF)	0	0	21	35	60	97	125
Need for Water – Extreme Demand Scenario (TAF)	0	0	0	13	32	55	84

*MGD = millions of gallons per day

**TAF = Thousand Acre Feet

[1] PLOD (Planning Level of Demand) accounts for projected savings from water recycling and conservation programs as discussed in the 2020 UWMP, Chapters 3. Customer demand values are based on the Water Supply Availability and Deficiency received by EBMUD, 2020

[2] Projected available CVP supplies are taken according to the Drought Management Program Guidelines discussed in Chapter 3.

[3] Rationing reduction goals are determined according to projected system storage levels in the Drought Management Program Guidelines discussed in the 2020 UWMP, Chapter 3.

[4] Need for Water includes unmet customer demand as well as shortages on the Lower Mokelumne River.

Source: East Bay Municipal Utility District (EBMUD). 2020. Urban Water Management Plan. https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan. (accessed July 2025).

Water Conservation

EBMUD implements a Water Shortage Contingency Plan (WSCP) to address uncertainties during dry water years and provide that essential public health, safety, and firefighting needs for water are met under all climatic conditions. The WSCP describes EBMUD's actions to enforce regulations and restrictions for managing a water shortage when it declares a water shortage emergency and describes EBMUD's planned actions to manage supply and demand before and during a water shortage to ensure a reliable water supply. The WSCP also describes emergency readiness and response including efforts to coordinate with local, county, regional, State, and federal agencies.[11]

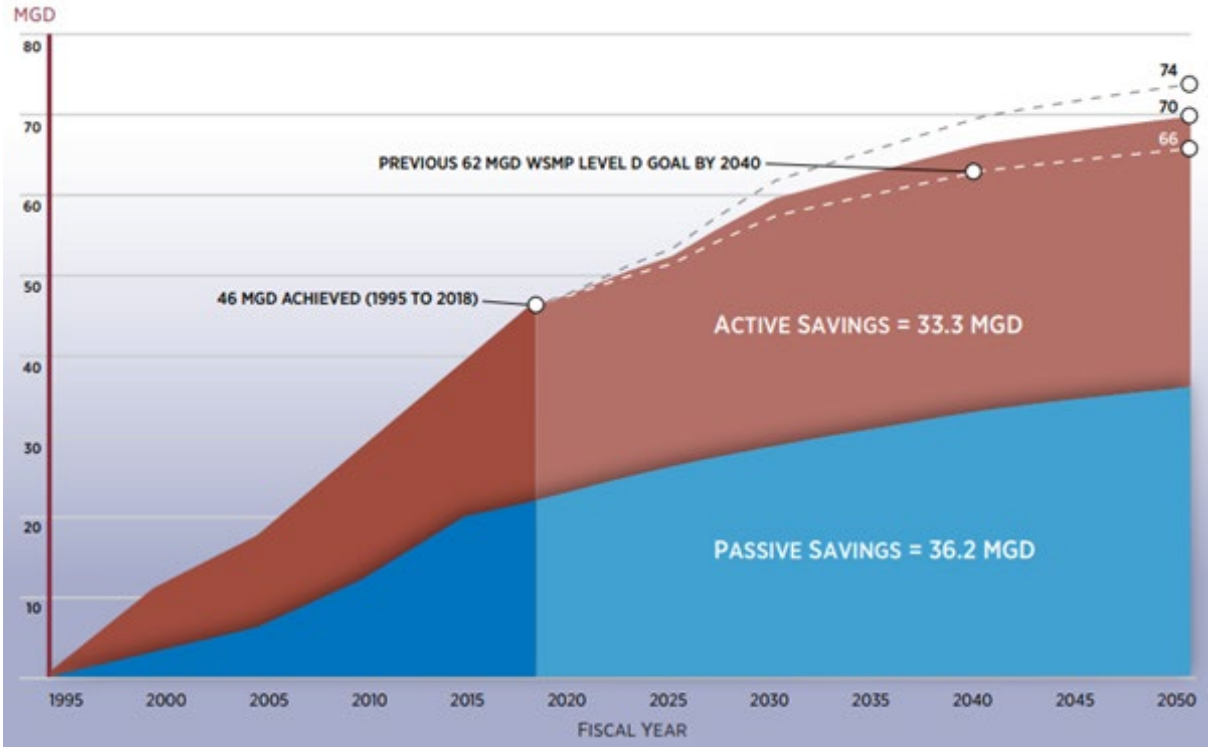
EBMUD's water conservation program addresses both supply-side (distribution system) and demand-side (customer) factors, as well as legislative activity. Demand-side water conservation measures improve customer water use efficiency and include water use surveys, incentives, education and outreach activities, market support activities, and regulatory programs. Supply-side water conservation measures, which improve efficiency before use by the customer, include distribution system leak detection and repair programs.[12]

In addition, supply savings are accomplished through both active and passive means, where active savings result directly from EBMUD conservation activities, and passive savings result from demand reductions related to codes, standards, and legislation, including EBMUD's efficiency regulations.

[11] EBMUD. 2021. Water Shortage Contingency Plan 2020. Available: https://www.ebmud.com/download_file/force/9150/735?WSCP-2020-FINAL.pdf (accessed March 2025).
[12] EBMUD. 2021. Urban Water Management Plan 2020. Available: https://www.ebmud.com/download_file/force/9151/735?UWMP-2020-FINAL-bookmarks.pdf (accessed March 2025).

EBMUD's 2021 WCSP presents three water conservation forecasts including achieved conservation as of 2018, as well as high and low water conservation forecasts. The "High" forecast represents a best-case scenario that includes district-wide rollout of advanced metering infrastructure technology, higher customer participation rates, and higher supply-side savings from higher rates of pipeline replacement. The "Low" forecast represents the Planning Level of Demand and was designed to be more conservative from a water supply planning perspective; the Low forecast was also used in EBMUD's 2020 UWMP to evaluate long-term water supply reliability. Figure 3.14-1 provides an overview of EBMUD's water conservation forecasts, including 46 MGD achieved between 1995 and 2018, as well as 66 to 74 MGD savings through 2050 for the Low and High forecasts, respectively.[13]

Figure 3.14-1 EBMUD Water Conservation Forecast



Source: EBMUD. 2021. Urban Water Management Plan Figure 6-2. Available: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan (accessed August 2025).

Project Site

Figure 3.14-2 shows the EBMUD water service lines within the project site (approximate locations were provided by EBMUD in their scoping comment on this project).

[13] EBMUD. 2021. Water Conservation Strategic Plan 2021. Available: https://www.ebmud.com/download_file/force/9740/719?Water_Conservation_Strategic_Plan_2021.pdf (accessed March 2025).

Figure 3.14-2 EBMUD Water Supply Lines Within and Connecting to the Project Site (Approximate Locations)



Source: Rehnstrom, David. 2025. Manager of Water Distribution Planning, East Bay Municipal Utility District (EBMUD). 2025. Personal communication via NOP Scoping Letter with Liza McNulty, Capital Improvement Program Manager, City of Berkeley Parks, Recreation, and Waterfront Development, and Rincon Consultants. May 14, 2025.

Wastewater

Wastewater Provider and Service Area

Wastewater collection serving the City of Berkeley and at the project site is provided by the City of Berkeley Public Works Department, which has a service area covering the 18 square miles of Berkeley. Wastewater treatment and disposal serving the City of Berkeley and project site is provided by EBMUD, which provides such wastewater services across a service area of 88 square miles within Alameda and Contra Costa Counties.[14]

Wastewater Infrastructure, Collection, and Generation

The City of Berkeley collects wastewater via approximately 254 miles of sanitary sewer pipelines and 31,600 service laterals throughout the City of Berkeley and conveys it to the EBMUD wastewater service district, Special District No. 1, which treats domestic, commercial, and industrial wastewater. The City owns and operates the sanitary sewer pipelines and service laterals as well as 7,200 manholes and other sewer structures and seven sewage pump stations. [15] EBMUD operates large sewer inceptors that collect wastewater from throughout municipalities within its wastewater service area and convey it to the EBMUD Main WWTP, which is discussed below under *Wastewater Treatment*.

The EBMUD North Interceptor runs along the coast through Berkeley and collects wastewater generated throughout Berkeley. Figure 3.14-3 provides an overview of the existing sewer mains and lift stations within the project site as well as the EBMUD North Interceptor. Lift stations function to move wastewater from lower to higher elevations within a sewage collection system. As shown in Figure 3.14-3, lift stations are located throughout the project site to help convey wastewater toward EBMUD's interceptor, which is buried within City streets and along Interstate 80.

Wastewater Disposal and Treatment

The EBMUD Main WWTP is located in West Oakland at the base of the San Francisco-Oakland Bay Bridge and provides secondary treatment of residential, commercial, and industrial wastewater.[16] On average, the Main WWTP treats approximately 63 MGD of wastewater collected from EBMUD's service area.[17] The Main WWTP has a dry weather flow treatment capacity of 120 MGD.[18]

In September 2014, the seven Satellite systems and EBMUD entered into a Consent Decree with U.S. Environmental Protection Agency, the SWRCB, and the SFRWQCB, which established requirements for eliminating Wet Weather Facility (WWF) discharges over the next 20 to 25 years. WWFs have previously been used to capture and provide primary-level treatment of wet weather flows that exceed the capacity of the interceptor system, then discharge those flows. The East Bay regional wastewater collection system receives high flows during storms due to excessive infiltration and inflow that enters the system through cracks and misconnections in public and private sewer lines.

[14] EBMUD. 2025. Service Area. Available: https://www.ebmud.com/about-us/who-we-are/service-area (accessed August 2025).
[15] Berkeley, City of. 2019. City of Berkeley Sewer System Management Plan. May. Available: https://berkeleyca.gov/sites/default/files/2022-02/Sewer-System-Management-Plan.pdf (accessed March 2025).
[16] Berkeley, City of. 2019. City of Berkeley Sewer System Management Plan. May. Available: https://berkeleyca.gov/sites/default/files/2022-02/Sewer-System-Management-Plan.pdf (accessed March 2025).
[17] Berkeley, City of. 2019. City of Berkeley Sewer System Management Plan. May. Available: https://berkeleyca.gov/sites/default/files/2022-02/Sewer-System-Management-Plan.pdf (accessed March 2025).
[18] SFBRWQCB. 2020. East Bay Municipal Utility District Main WWTP NPDES Permit. Available: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2020/September/EBMUD/tentativeorder_EBMUD.pdf (accessed April 2025).

Figure 3.14-3 Sanitary Sewer Facilities at and Connecting to the Project Site and North Interceptor



Source: NOP Scoping Letter from East Bay Municipal Utility District, 2025

The EBMUD National Pollutant Discharge Elimination System (NPDES) permit no longer allows discharge from the EBMUD WWF. Furthermore, the NPDES permits held by the Satellite Agencies also prevent these wastewater collection agencies from contributing to WWF discharges. Under the Consent Decree, the Satellite systems, including the City of Berkeley and EBMUD are required to eliminate WWF discharges by 2036 and reduce infiltration and inflow in the system over a 22-year period. To meet this requirement, these agencies are conducting sewer system improvements and practices to eliminate the WWFs by providing sufficient capacity in the interceptor system[19].

Stormwater

Stormwater Provider and Service Area

In Berkeley, the stormwater system is separate from the wastewater system. Stormwater collection serving the City of Berkeley and at the project site is provided by the City of Berkeley Public Works Department, which has a service area covering the 18 square miles of Berkeley. The City of Berkeley is also a member of the Alameda Countywide Clean Water Program (ACCWP) that supports efforts to protect waterways and the San Francisco Bay from stormwater runoff and pollution. The ACCWP covers a total of approximately 813 square miles across 14 cities in Alameda County, several other East Bay cities, and the Alameda County Flood Control and Water Conservation District.

Stormwater Infrastructure and Collection

Stormwater is water that runs across the ground surface following a precipitation event and is typically managed by guiding stormwater runoff into channels, drains, culverts, and other infrastructure via gravity that convey it towards a common discharge point or through on-site infiltration and percolation features.

Stormwater infrastructure is used to collect and convey stormwater flows (runoff) via gravity and to underground storm drain lines or manmade open channels, which discharge the stormwater flows directly into the San Francisco Bay. Conveyance mechanisms may include surface swales and subsurface pipes routing flows from paved and landscaped areas toward either existing storm drains or directly to shoreline outfalls. The City maintains and repairs curbs, sidewalks and pathways throughout Berkeley, as well as 214 miles of streets, 400 miles of sanitary sewers, and 78 miles of storm water piping, including approximately 5,800 storm structures and 30 green infrastructure installations. [20]

Stormwater Reduction

The City is also implementing Low Impact Development (LID) and Green Infrastructure strategies for consistency with the City's Watershed Management Plan (WMP), which identifies stormwater management conditions and needs throughout the city. LID and Green Infrastructure strategies implemented under the WMP primarily involve the use of landscape-based methods to contain stormwater near the source of runoff, to slow the rate of runoff entering storm drains. Stormwater management strategies implemented by the City also include the use of bioswales, permeable paving, underground stormwater storage, rain gardens, and rainwater catchment.[21]

[19] Berkeley, City of. 2025. Sanitary Sewer Rehabilitation: Urgent Sewer Project FY 2024. Available: https://berkeleyca.gov/your-government/our-work/capital-projects/sanitary-sewer-rehabilitation-urgent-sewer-project-fy (accessed March 2025).
[20] Berkeley, City of. 2025. Public Works. Available: https://berkeleyca.gov/your-government/about-us/departments/public-works (accessed March 2025)
[21] Berkeley, City of. 2011. Watershed Management Plan. Available: https://berkeleyca.gov/sites/default/files/2022-03/WatershedMgtPlan_2011October_Version1.0.pdf (accessed March 2025).

Project Site

The existing stormwater infrastructure throughout the project site includes but is not limited to gutters, storm drains and pipelines, as well as vegetated swales and pervious areas throughout the developed site. Stormwater management and LID features within the project site include vegetated areas within roadway medians and vegetation established along sidewalks, adjacent to paved areas, which would represent immediate treatment via filtration, infiltration, and pollutant removal, prior to discharge. Portions of the developed project site, including parking lots, paths, and plaza area are connected to formal drainage pipes and treatment. Other peripheral shoreline areas, especially near the pier deck and open-space margins, may sheet flow directly into the Bay, as is typical for older marina areas where direct runoff reaches riprap or shoreline edge without capture.

Electricity

Electricity Providers and Service Areas

Electricity service within the City of Berkeley and at the project site is provided by a community-governed power supplier called Ava Community Energy (formerly known as East Bay Community Energy), which has a service area of approximately 849 square miles, covering all of Alameda County and the cities of Tracy, Stockton, and Lathrop, with service in unincorporated San Joaquin County planned for 2026.[22] PG&E maintains the power grid serving the City of Berkeley and project site and has an electrical power service area covering approximately 70,000 square miles in northern and central California, from Eureka in the north to Bakersfield in the south and from the Pacific Ocean to the west and the Sierra Nevada to the east.

Electricity Source and Supply

Electricity and natural gas service to the project site is provided by PG&E and Ava Community Energy (Ava). Electric power needs within the project site are accommodated by the existing electricity grid, which constantly adjusts to meet consumer demands.

Ava Community Energy is the default electricity generation provider in its service area. Ava builds and buys from clean power plants to offer residential and commercial customers a choice between power sources.[23] As of 2023, Ava's basic plan, Bright Choice, was 54.6 percent renewable, relying on a mix of biomass and biowaste (13 percent), geothermal (2.2 percent), eligible hydroelectric (2.5 percent), solar electric (5.6 percent) and wind (31.3 percent). Its nonrenewable sources include large hydroelectric (34.1 percent), "other" (11.4 percent), and unspecified sources of power (28.4 percent), which refers to electricity that is not traceable to a specific generating facility and typically includes a mix of all resource types that may include renewables.[24]

PG&E acquires electricity from more than 400 generating plants owned by independent power producers or qualified facilities that make electricity from hydropower, gas-fired steam, and nuclear energy, including those owned by Ava Community Energy. PG&E also purchases electricity from sources outside its service area, transmitted across several states using the electric grid, which is a network of high-voltage transmission lines connecting generation plants to substations that use transformers to lower the voltage of electricity, transitioning electricity conveyance from the transmission system to the distribution system. Individual electricity customers receive electricity

[22] Ava Community Energy. 2025. "Who We Serve." Available: https://avaenergy.org/community/who-we-serve/ (accessed July 2025).
[23] Ava Community Energy. 2025. "What We Do." Available: https://avaenergy.org/what-we-do/ (accessed July 2025).
[24] PG&E. 2023. PG&E and Ava Community Energy Comparison. Available: https://www.pge.com/assets/pge/docs/account/alternate-energy-providers/Ava_PowerGenerationMix.pdf (accessed July 2025).

from the distribution system, which delivers electricity using both overhead and underground power lines.[25]

Project Site

The project site is currently served by the PG&E El Cerrito G substation, which is located more than 5 miles north of the project site. As summarized in Table 3.14-1, there are existing electric distribution and transmission lines in and near the project site, including buried within existing roadways (University Avenue, Marina Boulevard).[26,27] The specific locations of underground utilities may be confirmed in preparation for construction activities through Underground Service Alert, a free public service that will contact PG&E and other companies responsible for underground in the area. Representatives will then mark the location of their underground lines so they may be safely avoided during excavation activities.

Natural Gas

Natural Gas Provider and Service Area

Natural gas service and pipeline system within the City of Berkeley and at the project site is provided by PG&E.

Natural Gas Source and Supply

Similar to electricity, discussed above, PG&E delivers natural gas throughout its service territory, which it generates in facilities often within several hundred miles of the points of use. As with electricity supply and demand, natural gas needs within and near the project site are accommodated by PG&E's natural gas system which is adjusted as needed to meet consumer demands.

PG&E purchases natural gas supplies from producers and marketers in Canada, the Rockies, and the U.S. Southwest, making purchases on daily, monthly, and longer-term bases. PG&E occasionally sells excess natural gas, and conducts release of pipeline capacity. PG&E also procures renewable natural gas which is derived from organic matter from sources such as landfills, agricultural waste, wastewater treatment plants, and organic materials that release methane, which is collected and treated to produce renewable natural gas.[28]

Project Site

There are no natural gas transmission pipelines at or connecting to the project site.[29] The closest natural gas transmission pipelines are across Interstate 80 to the east of the project site within existing rights-of-way in public roadways.[30] There are natural gas distribution pipelines within the

[25] PG&E (Pacific Gas & Electric Company). 2025. PG&E Electric System. Available: https://www.pge.com/assets/pge/docs/about/pge-systems/pge-electric-system.pdf (accessed March 2025).
[26] Berkeley Department of Public Works. 1966. Berkeley Marina - Paving and Utilities. Site Plan – As Built.
[27] Berkeley Public Works, Disaster, and Fire Safety and Transportation Commissions. 2018. Conceptual Study to Underground Utility Wires in Berkeley.
[28] PG&E. 2025. Core gas supply. Available: https://www.pge.com/en/about/doing-business-with-pge/core-gas-supply.html (accessed March 2025).
[29] PG&E. 2025. Gas Systems: Learn where natural gas pipelines are located. Web mapping tool. Available: https://www.pge.com/en/about/pge-systems/gas-systems.html#tabs-fc6b80548f-item-727cbee02b-tab (accessed March 2025).
[30] PG&E. 2025. Gas Systems: Learn where natural gas pipelines are located. Web mapping tool. Available: https://www.pge.com/en/about/pge-systems/gas-systems.html#tabs-fc6b80548f-item-727cbee02b-tab (accessed March 2025).

project site, which are smaller than transmission pipelines, and convey natural gas directly to customer connections.

Telecommunications

Telecommunications Infrastructure and Facilities

Telecommunications refers to the electronic transmission of information over long distances, including internet and telephone services. Telecommunication facilities include wireless antennas and cables, which may be placed above ground on stand-alone or shared towers with electricity transmission and distribution lines, as well as below ground, in designated rights-of-way commonly also shared with other utilities including electricity and natural gas lines.

Telecommunications Providers and Service Area

Telecommunications services within the City of Berkeley and at the project site are provided by Comcast, AT&T, and Sonic.

Project Site

There are no existing wireless antennas within or adjacent to the project site. The nearest telecommunication wireless antennas are located along Eastshore Highway, near the intersections of Eastshore Highway and University Avenue, and Eastshore Highway and Hearst Avenue.[31] In addition, as noted in Table 3.14-1, telecommunications lines have been undergrounded within and near the project site and are co-located with electric power distribution lines within existing roadways.

Solid Waste

Solid Waste Provider and Service Area

Solid waste collection and disposal, recycling, and organics collection and composting services within the City of Berkeley and at the project site are provided by the City of Berkeley Public Works Department Zero Waste Division. In addition, the City of Berkeley works with the Ecology Center to provide recycling services and with StopWaste to meet recycling and composting requirements.

Solid Waste Collection and Sorting

Solid waste is collected from City-maintained receptacles and taken to the Berkeley Transfer Station for sorting.

Organics Collection and Composting

The Alameda County Plant Debris Landfill Ban requires that all organic (compostable) materials are kept out of landfills to reduce emissions contributing to climate change; therefore, organic waste materials are required to be separated from other waste prior to conveying waste to the Berkeley Transfer Station for sorting. Compostable materials include food scraps, tree and garden trimmings

[31] Berkeley, City of. 2024. City of Berkeley Community GIS Portal. Available: https://berkeley.maps.arcgis.com/apps/webappviewer/index.html?id=2c7dfafbb1f64e159f4fdf28a52f51c6&showLayers=Berkeley%20Parcels;Community%20Services (accessed March 2025).

(including palm leaves and bamboo), unpainted/untreated wood (nails are okay), untreated wood chips, and compostable paper. [32]

Solid Waste Recycling and Disposal

The City of Berkeley Zero Waste Division of the Public Works Department is the primary agency responsible for the management of solid waste collection and disposal. The Zero Waste Division oversees contracts with local organizations such as the Community Conservation Centers (CCC) and StopWaste. The CCC operates the Berkeley Recycling Center, managing buyback, drop-off, and processing programs resulting in a total of approximately 16,000 tons of recyclables processed in the city annually.[33]

The Zero Waste Division operates the Berkeley Transfer Station, which accepts construction and demolition materials for recycling. Accepted materials include wood (clean, untreated, unpainted); roofing materials (no asphalt shingles); drywall; tile, porcelain, brick; dirt and rock; concrete; metal; cardboard; rigid plastics; toilets, sinks, and bathtubs. The Berkeley Transfer Station does not accept hazardous waste. Additional items that require special handling include carpet recycling; treated wood waste; and used motor oil or hydraulic fluid.[34] The Davis Street Resource Recovery Complex and Transfer Station also handles trash from the city of Berkeley, and recovers materials for reuse, recycling, or composting.

Solid waste that is not recycled, composted, or otherwise diverted from the transfer stations receiving material from Berkeley is conveyed via truck to the Altamont Landfill in Livermore for disposal. The Altamont Landfill is one of the largest landfill operations in Northern California, and provides disposal of all non-hazardous municipal solid wastes, non-hazardous industrial and special wastes, de-watered wastewater treatment plant sludge (biosolids), treated auto shredder wastes, contaminated soils, liquids for solidification, and friable asbestos wastes.[35] As of October 31, 2024, the Altamont Landfill had 52.3 million cubic yards of capacity remaining of its total permitted 124.4 cubic yards, with disposal capacity sufficient to meet anticipated needs through 2060.[36]

In Alameda County, the Department of Environmental Health is certified by CalRecycle as the Local Enforcement Agency (LEA) responsible for ensuring the correct operation and closure of solid waste facilities. As the Alameda County LEA, the Department of Environmental Health is also responsible for the proper storage and transportation requirements of solid wastes.[37] In addition to the Alameda County LEA, regulatory agencies responsible for oversight of the Altamont Landfill include the Central Valley Regional Water Quality Control Board and the Bay Area Air Quality Management District. The landfill is owned and operated by Waste Management of Alameda County, Inc., in accordance with Solid Waste Facilities permit 01-AA-0009 and Waste Discharge Requirements permit R5-2009-0055.

[32] Berkeley, City of. 2025. Transfer Station. Available: https://berkeleyca.gov/city-services/trash-recycling/transfer-station (accessed March 2025).
[33] Berkeley Recycling Operated by Community Conservation Centers, Inc. 2025. "About Community Conservation Centers." Available: https://berkeleyrecycling.org/about/ (accessed August 2025).
[34] Berkeley, City of. 2025. Transfer Station. Available: https://berkeleyca.gov/city-services/trash-recycling/transfer-station (accessed March 2025).
[35] Waste Management, Inc. 2025. Altamont Landfill. Available: https://www.wm.com/location/california/cabay/empire/landfills/altamont.jsp (accessed March 2025).
[36] CalRecycle. 2025. Solid Waste Information System Database. Altamont Landfill & Resource Recovery. Available: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/7?siteID=7 (accessed March 2025).
[37] Alameda County Department of Environmental Health. 2025. Solid Waste Program. Available: https://deh.acgov.org/solidwaste/solid-waste.page? (accessed March 2025).

Solid Waste Reduction

The City of Berkeley is also developing a Zero Waste Strategic Plan, which will serve as a framework and roadmap for achieving zero waste sent to landfills. Recommendations that are expected to be included in the Zero Waste Strategic Plan include requiring new buildings to allocate space for compost and recycling bins, and implementing programs to reuse and repair materials rather than disposing of them.[38] The Zero Waste Strategic Plan, which was initiated in January 2023, is designed to support achievement of the City of Berkeley Climate Action Plan goals towards waste reduction and recycling.[39]

Project Site

There are several Class I, II, and III Landfills within a 250-mile range of the project site that have sufficient capacity to serve the project site, as shown in Table 3.14-3.

3.14.3 Regulatory Framework

Federal Regulations

Federal Energy Regulatory Commission Regulations

The Federal Energy Regulatory Commission (FERC) Regulations are found under Title 18 Chapter 1 of the Code of Federal Regulations. FERC regulates the transmission and sale of natural gas for resale in interstate commerce, the transmission of oil by pipeline in interstate commerce, and the transmission and wholesale of electricity in interstate commerce. FERC also oversees environmental matters related to natural gas projects and major electricity policy initiatives.

State Regulations

Urban Water Management Planning Act

The Urban Water Management Planning (UWMP) Act of 1983 amended the California Water Code to require all urban water suppliers in California to prepare and adopt a UWMP and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AFY) of water. The EBMUD 2020 UWMP is applicable to the project site and is discussed further in the *Regional and Local* subsection below.

Water Conservation Act of 2009 (Senate Bill X7-7)

California adopted Senate Bill (SB) X7-7, or the Water Conservation Act of 2009, in November 2009. The legislation requires urban water retailers to set urban water use targets to achieve a 20 percent reduction in per capita urban water use by December 31, 2020. Additionally, the law requires agricultural water suppliers to prepare, adopt, and regularly update agricultural water management plans. Agricultural and urban water providers are ineligible for certain State grants and loans if they do not adhere to water conservation requirements established in the law.

[38] Berkeley, City of. 2025. Zero Waste Strategic Plan. Available: https://berkeleyca.gov/city-services/trash-recycling/zero-waste-strategic-plan (accessed March 2025).
[39] Berkeley, City of. 2009. Climate Action Plan. Available: https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Climate-Action-Plan.pdf (accessed March 2025).

Table 3.14-3 Solid Waste Volumes and Capacity of Landfills Serving Berkeley

Landfill	Landfill Class[1]	County	Landfill Permitted Daily Tonnage (tons per day)	Maximum Permitted Landfill Capacity (cubic yards)	Remaining Landfill Capacity (cubic yards)	Remaining Capacity as of Date	Estimated Permitted Closure Date
Altamont	II, III	Alameda	11,150	124,400,000	52,300,000	October 31, 2024	December 1, 2060
Vasco Road	II, III	Alameda	2,518	40,207,100	11,560,000	November 1, 2022	December 31, 2051
Keller Canyon	II	Contra Costa	3,500	75,018,280	63,408,410	November 16, 2004	December 31, 2050
Newby Island	III	Santa Clara	4,000	57,500,000	16,400,000	January 31, 2020	January 1, 2041
Kettleman Hills	I, II	Kings	9,000	15,600,000	2,880,000	July 31, 2023	N/A
Total			**30,168**	**312,725,380**	**146,548,410**	**N/A**	**N/A**

[1] Class I indicates a landfill that is authorized to accept hazardous waste. Class II landfills may accept designated waste but are not authorized to accept hazardous waste. Class III landfills are municipal solid waste facilities and are not authorized to accept hazardous waste.

Sources:

CalRecycle. 2025. Solid Waste Information System (SWIS) Database. Available: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search. (accessed April 2025).

DTSC. 2024. Kettleman Hills Facility RCRA Equivalent Hazardous Waste Facility Permit. Available: https://dtsc.ca.gov/wp-content/uploads/sites/31/2024/04/KHF-Draft-RCRA-Permit_English_ada.pdf. (accessed June 2025).

DTSC. 2025. Waste Classification Definitions. Available: https://dtsc.ca.gov/glossary/ (accessed December 2025).

Assembly Bill 1668 and Senate Bill 606

Assembly Bill (AB) 1668 and SB 606 establish new water usage targets beyond SB X7-7 to better prepare the state for droughts and climate change. AB 1668 establishes long-term water use efficiency standards and objectives for urban and agricultural water suppliers, promoting sustainable water management practices. SB 606 complements AB 1668 by requiring water suppliers to set annual water budgets and prepare for drought conditions to promote resilience against future water shortages.

California Model Water Efficient Landscape Ordinance

Title of 23 of California Code of Regulation (CCR) Div. 2 Chapter 2.7 requires cities and countries to ensure Model Water Efficient Landscape Ordinance (MWELO) compliance for new construction projects. The updated Model Water Efficient Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by January 31, 2010 or to adopt a different ordinance that is at least as effective in conserving water as the updated MWELO. The City of Berkeley adopted the Bay-Friendly Landscape Ordinance in accordance with this requirement. The ordinance incorporates landscape protocols developed by the Alameda County Waste Management Authority and all parameters in the MWELO. The ordinance became effective as of February 1, 2010. In May of 2015, the governor issued Executive Order B-29-15 requiring the state to revise the MWELO to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, onsite stormwater capture, and by limiting the portion of landscapes that can be covered in turf. The last update to the City's Water Efficient Landscape Ordinance occurred on December 1, 2015.

California Water Recycling Criteria

California's water recycling criteria, described in Title 22 of the CCR, establish uniform statewide standards for the use of different types of recycled water, including filtered and disinfected oxidized and disinfected and undisinfected recycled water. These criteria cover various non-potable applications, including irrigation, industrial processes, and toilet flushing, ensuring that recycled water is safely and effectively utilized. The regulations mandate specific treatment processes, water quality requirements, and monitoring protocols to protect public health and the environment.

California Plumbing Code, Title 24, Part 5

The California Plumbing Code is codified in CCR Title 25, Part 5. The Plumbing Code contains regulations including, but not limited to, plumbing materials, fixtures, water heaters, water supply and distribution, ventilation, and drainage. More specifically, Part 5, Chapter 4, contains provisions requiring the installation of low-flow fixtures and toilets.

Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Adopted by the SWRCB in 2006, the Statewide General Waste Discharge Requirements For Sanitary Sewer Systems requires that every public agency in California with more than one mile of sanitary sewers prepare a Sewer System Management Plan that defines the management, operation, and maintenance practices needed to prevent and mitigate the impact of sanitary sewer overflows.

California's Short-Lived Climate Pollutant Reduction Strategy (SB 1383)

Signed into law in September 2016, SB 1383 establishes methane emissions reduction targets for California in a statewide effort to reduce emissions of short-lived climate pollutants. The targets are to reduce organic waste disposal 50 percent by 2020 and 75 percent by 2025. The law also grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. Enforcement of these targets began January 1, 2022. California communities are still working toward these goals. Per the most recent information available from CalRecycle, 92 percent of jurisdictions with requirements report having residential organics collection, and 100 percent of California communities have expanded programs to recover disposed edible consumption, with 94 percent of the 2025 target being reached in 2023.[40] In Alameda County, SB 1383 is enforced under the Organics Reduction and Recycling Ordinance in partnership with StopWaste.

Assembly Bill 939: California Integrated Waste Management Act

AB 939 (Public Resource Code 41780) requires cities and counties to prepare integrated waste management plans and to divert 50 percent of solid waste from landfills beginning in calendar year 2000 and each year thereafter. AB 939 also requires cities and counties to prepare source reduction and recycling elements as part of the integrated waste management plans. These elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing, and stimulate the purchase of recycled products.

Senate Bill 1016

SB 1016 requires that the 50 percent solid waste diversion requirement established by AB 939 (the California Integrated Waste Management Act) be expressed in pounds per person per day. SB 1606 changed the CalRecycle review process for each municipality's integrated waste management plan. After an initial determination of diversion requirements in 2006 and establishment of diversion rates for subsequent calendar years, CalRecycle now reviews a jurisdiction's diversion rate compliance in accordance with a specified schedule. Since 2018, CalRecycle is required to review a jurisdiction's source reduction and recycling element and hazardous waste element once every two years.

Assembly Bill 341

The purpose of AB 341 is to reduce greenhouse gas emissions by diverting commercial solid waste to recycling efforts and expanding the opportunity for additional recycling services and recycling manufacturing facilities in California. In addition to mandatory commercial recycling, AB 341 set a statewide goal for 75 percent disposal reduction by 2020. Although the 2020 deadline has passed without the achievement of the 75 percent reduction goal, AB 341 laid the foundation for more aggressive recycling and waste reduction policies.

Assembly Bill 1826: Mandatory Commercial Organics Recycling

AB 1826 of 2014 (Public Resource Code Chapter 727, Statutes of 2014) requires businesses that generate a specified amount of organic waste per week to arrange for recycling services for that waste, and that jurisdictions implement a recycling program to divert organic waste from businesses

[40] CalRecycle. 2025. California's Climate Progress on SB 1383. Available: https://calrecycle.ca.gov/organics/slcp/progress/ (accessed May 2025).

subject to the law. The jurisdictions must report to CalRecycle on their progress in implementing an organic waste recycling program. As of January 1, 2017, businesses that generate four cubic yards or more of organic waste per week shall arrange for organic waste recycling services.

Assembly Bill 332

AB 332 addresses the management of treated wood waste in California. It mandates compliance with hazardous waste control laws or specific management standards for treated wood waste, which includes reuse, storage, treatment, transportation, tracking, identification, and disposal. The bill limits these standards to wood waste that is hazardous solely due to preservatives and not subject to federal regulation. It requires the wood preserving industry to maintain outreach materials and update the Department of Toxic Substances Control on industry trends. The bill also stipulates that treated wood waste must be disposed of in designated landfills and prohibits burning, scavenging, and commingling with other waste. Additionally, it imposes recordkeeping and reporting requirements on handlers and facilities managing treated wood waste. The bill is set to be repealed by January 1, 2030, unless extended by subsequent legislation.

California Green Building Standards Code (24 CCR Part 11)

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. The Code requires the applicant to have a construction and waste demolition and diversion plan, for on-site sorting or construction debris, which is submitted to the City of Berkeley for approval.

California Public Utilities Commission General Order 131-D

General Order 131-D, issued by the California Public Utilities Commission (CPUC), establishes the rules for the planning and construction of electric generation, transmission, power distribution line facilities, and substations within California. Effective from July 8, 1994, this order mandates that utilities obtain permits for the construction of new facilities or the modification of existing ones. It also specifies the environmental review process required under the California Environmental Quality Act, to improve project compliance with state environmental regulations.

Designation of Transmission Corridor Zones

The California Energy Commission designates transmission corridor zones to facilitate the development of new electric transmission infrastructure. This process involves identifying and reserving specific areas where future transmission lines can be constructed to meet the state's growing energy demands and renewable energy goals. The designation aims to streamline the permitting process, minimize environmental impacts, and ensure that transmission projects align with state and local land use policies. 20 California Code of Regulations 2320-2340 specifies the process required for identification, evaluation, and designation of new transmission corridor zones.

Protection of Underground Infrastructure Code

California Government Code 4216, known as the Protection of Underground Infrastructure Code, establishes regulations to safeguard underground utilities during construction and excavation

activities. This code mandates that entities performing excavation must notify a regional notification center (i.e. Underground Service Alert) at least two days before commencing work to prevent damage to subsurface installations such as pipelines, conduits, and cables. It includes provisions for public utility protection in public contracts and describes the responsibilities of excavators and operators to ensure the safety and integrity of underground infrastructure.

Regional and Local Regulations

EBMUD 2020 Urban Water Management Plan

The California Water Code requires any municipal supplier serving over 3,000 connections or 3,000 AFY to prepare a UWMP. Water suppliers are required to update their UWMP every five years. EBMUD's 2020 UWMP forecasts demand through 2050 and details normal, dry year, and multiple dry year supplies needed to meet demand. Additionally, the UWMP describes water supply reliability, conservation, and demand management strategies and EBMUD's current and anticipated water infrastructure projects. The UMWP also includes a WCSP, which establishes EBMUD's staged response actions and mitigation strategies to address water shortages caused by drought, seismic events, or other emergencies.

Regional Private Sewer Lateral Ordinance[41]

The East Bay Regional Private Sewer Lateral Ordinance, adopted in 2010 and administered by EBMUD, requires property owners in participating jurisdictions to obtain a compliance certificate verifying that their private sewer lateral is free of leaks. The ordinance applies when a property is sold, undergoes permitted construction exceeding $100,000, or when the water meter size is changed. The program is intended to reduce infiltration and inflow into the regional wastewater system and protect water quality in San Francisco Bay. Although the City of Berkeley is not a formal participant in the regional ordinance, it coordinates with EBMUD on wastewater management and may implement similar requirements locally.

EBMUD Wastewater Control Ordinance[42]

The EBMUD Wastewater Control Ordinance establishes regulations for the discharge of wastewater into EBMUD's wastewater system. The ordinance provides the legal authority for EBMUD to implement its federal pretreatment program and sets local discharge limits for pollutants. It establishes requirements for wastewater discharge permits, prohibited and permissible discharges, and enforcement mechanisms. This ordinance applies to residential, commercial, and industrial dischargers and includes provisions for calculating wastewater disposal charges based on the volume and characteristics of their wastewater.

Alameda County Integrated Waste Management Plan, Countywide Element

In compliance with AB 939, the Alameda County Waste Management Authority adopted the Countywide Integrated Waste Management Plan in 1997 and updated the plan in 2020. The Countywide Integrated Waste Management Plan provides a plan for reaching the State-mandated goal of 50 percent waste diversion and the county-mandated goal of 75 percent waste diversion. It also mandates that reduction and disposal facilities in Alameda County that require Solid Waste

[41] EBMUD. 2025. Private sewer laterals. Available: https://www.ebmud.com/wastewater/private-sewer-laterals (accessed June 2025).
[42] EBMUD. 2024. Wastewater control ordinance and discharge limits. Available: https://www.ebmud.com/wastewater/collection-treatment/wastewater-control-ordinance-discharge-limits (accessed June 2025).

Facility Permits must conform with the Countywide Integrated Waste Management Plan's policies and siting criteria.[43]

Alameda County Waste Management Authority Plant Debris Landfill Ban Ordinance 2008-01

The Alameda County Waste Management Authority's Plant Debris Landfill Ban Ordinance 2008-01 prohibits the disposal of plant debris in county landfills. This ordinance requires landscape professionals, residents, and businesses to separate plant debris from other waste and place it in designated organics bins or clean green areas at disposal facilities.

Alameda County Organics Reduction and Recycling Ordinance 2021-02

The Organics Reduction and Recycling Ordinance went into effect January 1, 2022 as Alameda County's local implementation of SB 1383. The ordinance involves joint oversight from StopWaste, the cities of Alameda County, solid waste service providers, and environmental health departments. It requires businesses, nonprofits, institutions, schools, and multi-family properties to participate in organics and recycling collection service supported by indoor color-coded bins that must be sorted properly.[44]

Dredged Material Management Office

The Dredged Material Management Office (DMMO) was established under the Long-Term Management Strategy (LTMS) program to streamline the permitting process for dredging and dredged material disposal projects in the San Francisco Bay region. DMMO acts as a centralized, multi-agency body that evaluates dredged sediment quality and determines the suitability of materials for disposal or beneficial reuse. DMMO provides a consolidated application process for obtaining permits from multiple regulatory agencies for projects involving disposal in the San Francisco Bay.[45]

WETA Sustainability Policy

The WETA Sustainability Policy, adopted on August 8, 2024, establishes long-term environmental goals relevant to regulatory planning, including emissions reduction, climate resilience, and sustainable infrastructure development. The Policy identifies the following regulations concerning electricity and natural gas:

- Policy 2(a): Transition 2/3 of fleet to Zero Emission Vessels (ZEVs) by 2035 and 100% of fleet by 2030;
- Policy 2(b): Provide shoreside infrastructure required to support ZEVs at all current and future ferry facilities;
- Policy 2(c): Periodically update existing plans, such as the Climate Action Plan, to achieve comprehensive zero-emission capability, including San Francisco Bay Ferry fleet, facilities and agency personnel.

[43] Alameda County Waste Management Authority. 2023. Alameda County Integrated Waste Management Plan. Available: https://www.stopwaste.org/resource/reports/countywide-integrated-waste-management-plan-coiwmp (accessed August 2025)
[44] StopWaste. N.d. "Ordinance Overview." Available: https://www.stopwaste.org/rules/overview (accessed August 2025)
[45] BCDC. 2025. Dredged Material Management Office. Available: https://www.bcdc.ca.gov/programs/sediment-management/dredged-material-management/ (accessed July 2025).

The WETA Sustainability Policy includes provisions for addressing solid waste reduction, such as the following:

- Policy 3(e): Establish and execute a comprehensive waste reduction and recycling initiative at San Francisco Bay Ferry, incorporating audits, waste segregation, staff training, and ongoing monitoring, with the aim of attaining systemwide zero-waste.[46]

City of Berkeley Private Sewer Lateral Program[47]

The City of Berkeley's Private Sewer Lateral Ordinance, codified in Berkeley Municipal Code Chapter 17.24.010, requires property owners to obtain a Sewer Lateral Certificate of Compliance to verify that their private sewer lateral is free of leaks. Compliance is triggered by the sale or transfer of property, major building construction projects, or when the City determines that a Private Sewer Lateral is contributing to infiltration and inflow. The ordinance is intended to reduce wet weather overflows and protect water quality in local creeks and the San Francisco Bay. The City's ordinance is aligned with regional requirements established by the U.S. Environmental Protection Agency and the Regional Water Quality Control Board and is no less stringent than the East Bay Municipal Utility District's regional Private Sewer Lateral ordinance.

Berkeley General Plan

ENVIRONMENTAL MANAGEMENT ELEMENT

The Berkeley General Plan Environmental Management Element includes the following policies applicable to water, wastewater, stormwater, solid waste, and electricity:

Policy EM-7 Reduced Wastes.

Continue to reduce solid and hazardous wastes. Actions:

A. Achieve a 64% diversion of waste from landfills.
B. Manage wastes locally to the greatest extent feasible to minimize the export of wastes and pollution to other communities.
E. Encourage reuse, recycling, and composting.
J. Encourage reusable bags and packaging such as reusable bottles, whether glass or plastic.

Policy EM-8 Building Reuse and Construction Waste.

Encourage rehabilitation and reuse of buildings to reduce waste, conserve resources and energy, and reduce construction costs. Actions:

A. Encourage the reuse of demolition materials and recycling of construction scraps.

Policy EM-9 Recycling and Waste Transfer Stations.

Ensure convenient access for Berkeley citizens to transfer stations, recycling, composting, and collection of waste products.

[46] Water Emergency Transportation Authority. 2024. Board of Directors Meeting Agenda, Attachment A: WETA Sustainability Policy. Available: https://d262kwcyxl71on.cloudfront.net/wp-content/uploads/20241115153511/b080824aFULLRev.pdf (accessed May 2025).
[47] Berkeley, City of. 2024. Private Sewer Lateral Program. Available: https://berkeleyca.gov/sites/default/files/2022-02/PSL-ComplianceGuide.pdf (accessed June 2025).

Policy EM-10 Materials Recovery and Remanufacturing.

Support and encourage serial materials recovery and remanufacturing industries.

Policy EM-11 Biodegradable Materials and Green Chemistry.

Support efforts to phase out the use of long-lived synthetic compounds and nonbiodegradable substances.

Policy EM-20 City of Berkeley Fleet.

The City should exceed Federal and State standards for all City fleet vehicles and use all means practical to reduce emissions of criteria pollutants and greenhouse gases. Actions:

A. Through attrition, eliminate all heavy-duty, diesel-fueled vehicles.
B. All vehicle acquisitions should be of a size and fuel-type (including bicycles, ultra-light vehicles, electric vehicles and/or hybrid vehicles, and premium-efficiency conventional vehicles) that are appropriate for the tasks and have the least amount of emissions.
C. Continue to convert fleet vehicles to natural gas, electricity, and other alternative fuels. Substitute bicycles for energy-powered vehicles whenever possible.

Policy EM-21 Alternative Fuels.

Work with the University of California, the Berkeley Unified School District, and other agencies to establish natural gas fueling and electric vehicle recharging stations accessible to the public.

Policy EM-23 Water Quality in Creeks and San Francisco Bay.

Take action to improve water quality in creeks and San Francisco Bay. Actions:

A. Work with the East Bay Municipal District (EBMUD) to ensure that wastewater discharges comply with the requirements of EBMUD's Wastewater Control Ordinance No. 311 to manage wastewater treatment discharges to protect San Francisco Bay.

Policy EM-24 Sewers and Storm Sewers.

Protect and improve water quality by improving the citywide sewer system. Actions:

C. Establish a program for the identification and remediation of faulty laterals on private property. Consider requiring inspection and repair as a condition of property transfer.

Policy EM-26 Water Conservation.

Promote water conservation through City programs and requirements.

Policy EM-35 Energy-Efficient Design.

Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources.

Policy EM-41 Fossil Fuel.

Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources. Actions:

A. Wherever feasible, purchase low-emission, fuel-efficient vehicles and phase out use of diesel-fuel vehicles.
B. Encourage actions that provide access by proximity, such as locating housing closer to transportation, commercial services, and job centers.

DISASTER PREPARATION AND SAFETY ELEMENT

The Berkeley General Plan Disaster Preparation and Safety Element includes the following policy applicable to water:

Policy S-7 Emergency Water Supply.

Protect life and property in the event of an earthquake by evaluating alternate drinking water and firefighting water supply in the event of failure of the East Bay Municipal Utility District (EBMUD) water supply.

Proposed City of Berkeley Zero Waste Strategic Plan

The proposed City of Berkeley Zero Waste Strategic Plan is being designed to eliminate all solid waste from being sent to landfills by implementing strategies to divert, conserve, reuse, and repair. The plan will include recommendations for expanding waste reduction, recycling, and composting initiatives, such as requiring new buildings to allocate space for compost and recycling bins, promoting reuse and repair programs, and implementing reusable food ware for takeout. This plan remains under review and has not yet been adopted.

City of Berkeley Ordinance No. 7, 156—N.S.

Ordinance No. 7, 156—N.S. amends Chapter 19.24 of the Berkeley Municipal Code, Construction and Demolition Debris Salvage and Recycling. This ordinance modifies Subsection 4.408.1, Construction Waste Management, to require the recycle and/or salvage for reuse of 100 percent of excavated soil and land-clearing debris, 100 percent of concrete, 100 percent of asphalt and a minimum of 65 percent of other nonhazardous construction and demolition waste in accordance with Subsection 4.408.2, 4.408.3, or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. This ordinance allows for the enforcing agency to make exceptions to these requirements when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

City of Berkeley Code Re-Adoption Ordinance (Ordinance No. 7,906—N.S., 2024)

In June 2024, the City of Berkeley re-adopted its local building codes, incorporating local amendments to the 2022 California Building Standards Code. The ordinance updates Berkeley Municipal Code Chapters 19.28-19.37, covering the Building, Residential, Electrical, Mechanical, Plumbing, Energy, and Green Building Codes. These updates include stricter local provisions specific to Berkeley's seismic, fire, and environmental conditions. The ordinance includes:

- Mandatory undergrounding of utilities for new construction in designated fire zones (Berkeley Municipal Code 19.28.090 and 19.29.050);

- Mandatory motion-activated gas shut-off valves for new construction and certain alterations involving fuel gas piping (Berkeley Municipal Code 19.34.040);
- Enhanced EV infrastructure requirements for residential and nonresidential developments (Berkeley Municipal Code 19.37.040);
- Emergency utility disconnection authority granted to the Building Official in hazardous conditions (Berkeley Municipal Code 19.28.112).

3.14.4 Impacts Analysis

Significance Criteria

The City of Berkeley utilizes the following 2025 *CEQA Guidelines* Appendix G significance criteria questions related to utilities and service systems. Would the proposed project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?[48]
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects' projected demand in addition to the provider's existing commitments?
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Approach to Analysis

Environmental impacts on utilities and service systems have been assessed using impact significance criteria from federal, State, and local regulations. The impact analysis is based on available literature regarding the existing plans, policies, and resources in the project site. Criteria used during this analysis are described below.

Water

The water supply analysis in this section is based on information included in the EBMUD UWMP. This UWMP provides detailed system description, system demands (including cumulative growth assumptions), water reduction planning, system supplies, water quality information, groundwater information, water supply reliability information, water shortage contingency planning, demand management measures, as well as information on climate change.

[48] The project would not use any natural gas and no connections to natural gas infrastructure would be required. Therefore, the project would not require the relocation or construction of new or expanded natural gas facilities and no impact would occur from relocation or construction of natural gas facilities. For this reason, natural gas is not discussed further in this EIR.

Wastewater

Wastewater production was calculated and compared with treatment capacity to determine whether wastewater treatment requirements would be exceeded. Wastewater discharge permitting requirements were also reviewed.

Stormwater

Stormwater production was calculated and compared with City of Berkeley's stormwater facility treatment capacity to determine whether stormwater collection requirements would be exceeded.

Electricity

Electrical demand was estimated and compared with the planned on-site infrastructure capacity to determine whether new or expanded off-site facilities would be required.

Natural Gas

Since the proposed project would not include connections for natural gas facilities, impacts from natural gas are addressed briefly.

Telecommunications

The telecommunications providers in Berkeley were identified and ability to provide service verified.

Solid Waste

Solid waste production was calculated and compared with the applicable landfill capacity to determine whether landfill daily permitted capacity and total storage capacity would be exceeded. Berkeley's solid waste regulations and policies were also reviewed.

EIR Scoping Comments Consideration

EBMUD provided comments during the NOP scoping period regarding the location of existing water distribution infrastructure within the project site, requested coordination to ensure protection of EBMUD facilities and access to rights-of-way during project development, provides an overview of requirements for infiltration and inflow, and requests compliance with Assembly Bill 325, Model Water Efficient Landscape Ordinance. The location of EBMUD facilities and regulatory requirements are addressed above in Section 3.14.2, *Environmental Setting* and Section 3.14.3, *Regulatory Framework.*

BCDC provided a comment about the reliability of utilities and the impacts from those utilities and systems on the environment. This comment is addressed below in Impact UTL-1.

Two organizations (SPRAWLDEF and Sierra Club) provided a comment about the service life of existing utilities and that rising groundwater may inundate portions of buried utilities. Rising groundwater in the Bay Area is a regional hazard linked to sea level rise. The project is designed to account for sea level rise projections. Utilities, including infrastructure for buried conduits, water, sewer, and electrical, would be designed with sufficient cover and waterproofing to withstand near-term inundation. While groundwater rise is a regional issue, project-specific design avoids siting utilities at depths likely to intersect with projected shallow groundwater conditions.

One comment from an individual was related to the impact from garbage associated with "food courts" and "food trucks." Solid waste impacts are addressed below in Impacts UTL-3 and UTL-4.

Specific Thresholds of Significance

For purposes of this analysis, the following thresholds are used to evaluate the significance of utilities and service systems impacts resulting from implementation of the proposed project.

- Create a need for relocated, new, or expanded water supply, wastewater treatment, stormwater drainage facilities, or telecommunications facilities, the construction of which would result in a significant physical impact on the environment.
- Result in insufficient water supply to serve the proposed project's water demand during normal, dry, and multiple dry years.
- Inadequate capacity at the Main WWTP to serve the proposed project's wastewater generation.
- Insufficient permitted capacity at landfills shown in Table 3.14-3 to serve waste generation of the proposed project.
- Unable to comply with AB 939 solid waste diversion goals.

Impact Evaluation

Need for Water, Wastewater, Stormwater, Electric Power, Natural Gas, and Telecommunication Facilities and Wastewater Treatment Capacity

Significance Criterion a:	Would the proposed project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
Significance Criterion c:	Would the proposed project 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?

Impact UTIL-1 **THE PROPOSED PROJECT WOULD REQUIRE UTILITY SERVICE AND CONNECTIONS FOR WATER SUPPLY, WASTEWATER CONVEYANCE, AND STORMWATER CONVEYANCE, AS WELL AS TELECOMMUNICATIONS AND ELECTRICITY. EXISTING UTILITY SYSTEMS FOR WATER, WASTEWATER, STORMWATER, ELECTRIC POWER, AND TELECOMMUNICATIONS FACILITIES IN BERKELEY HAVE SUFFICIENT CAPACITY TO SERVE THE PROJECT. ADEQUATE WASTEWATER CAPACITY EXISTS TO SERVE THE PROJECT'S PROJECTED DEMAND IN ADDITION TO THE PROVIDER'S EXISTING COMMITMENTS. UTILITY CONNECTIONS FROM THE PROPOSED PROJECT WOULD RESULT IN LESS THAN SIGNIFICANT IMPACTS ON AIR QUALITY, BIOLOGICAL RESOURCES, CULTURAL RESOURCES, NOISE, AND TRIBAL CULTURAL RESOURCES, AFTER MITIGATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.**

Construction

As described in Section 3.14.2, *Environmental Setting*, there are existing utilities within and near the project site. The engineering team will coordinate with utility providers and regional notification centers prior to construction as required by regulations such as California Government Code 4216, or the Protection of Underground Infrastructure Code, as discussed in Section 3.14.3, *Regulatory Framework* above. In compliance with this regulation, the City or its contractor(s) will identify existing utilities prior to construction and notify a regional notification center such as Underground

Service Alert at least two days prior to commencing work to avoid impacts on utilities during construction of the proposed project. Therefore, impacts on utilities from utility conflicts would be less than significant.

As described in Section 2.5.4 of Chapter 2, *Project Description*, the proposed project would require connections to the existing utility system located at the project site. This includes water connections, sewer connections, bioretention (stormwater) facilities, an electrical conduit and associated electrical infrastructure, and telecommunication connections. In addition, as described in Section 2.5.2 of Chapter 2, *Project Description*, the proposed project may include construction of a solar panel system over the Seawall Drive Parking Lot for energy generation. If implemented, the solar panel system would consist of a canopy structure ranging from approximately 14 to 20 feet, supported by vertical steel posts approximately 16 feet in height, with foundations requiring excavation to depths of roughly 12 feet below grade. The solar panel system would be paired with a battery energy storage system. Throughout the specific environmental sections of Chapter 3 of this EIR, the potential adverse physical effects on the environment due to construction of utilities is assessed. Below is a summary of the potentially significant environmental impacts identified for the construction of utilities (for additional details, please refer to the specific environmental section):

- Air Quality. Like other project components, construction of utilities would result in potentially significant impacts on air quality, including impacts related to criteria air pollutants and Toxic Air Contaminations. Mitigation Measure AQ-1 would be implemented and would require use of off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective California Air Resource Board and U.S. Environmental Protection Agency Tier 4 off-road emissions standards or alternatively fueled equipment. For the same reasons as described in Section 3.2, *Air Quality*, impacts would be reduced to a less than significant level with mitigation (see Impact AQ-2 and AQ-3).
- Biological Resources. Construction of utilities would occur primarily in previously disturbed areas, which would limit the potential to impact biological resources. However, construction of near Strawberry Creek for the electrical conduit could pose a potential impact on Northwestern Pond Turtle, as described in Impact BIO-1 in Section 3.3, *Biological Resources.* In addition, construction of utilities could result in vegetation removal that could affect nesting birds, and construction vehicles could pose a potential risk of introducing invasive species. For the same reasons described in Section 3.3, *Biological Resources*, impacts would be reduced to a less than significant level with mitigation (see Impact BIO-1 and BIO-2).
- Cultural Resources. Construction of utilities would require excavation and could, therefore, result in a potentially significant impact on unknown archaeological resources. Mitigation Measure CR-1 would be implemented and would require implementation of protocols in the event of an unanticipated find of archaeological resources and preventing additional work in the area of the unanticipated find. For the same reasons as described in Section 3.4, *Cultural Resources*, impacts would be reduced to a less than significant level with mitigation (see Impact CR-2).
- Noise. Like other project components, construction of utilities would result in potentially significant noise impacts on sensitive receptors. Mitigation Measure NOI-1 would be implemented and would require a Construction Noise Management Plan, which would reduce construction noise impacts. Most of the utility connections would occur landside, and as shown in Table 3.10-14 in Section 3.10, *Noise*, all landside construction noise impacts would be reduced to a less than significant level after mitigation. Some utilities would be included on the pier, including water, electrical, and telecommunication connections. As summarized in Table 3.10-16

and Table 3.10-17, most waterside noise impacts would be reduced to a less than significant level, except for demolition and pile driving. Utility connections on the pier would not involve demolition or pile driving, and for this reason any impacts from utility connections on the pier would be less than significant with mitigation (see Impact NOI-1).

- Tribal Cultural Resources. Construction of utilities would require excavation on land and could, therefore, result in a potentially significant impact on unknown tribal cultural resources. Mitigation Measures TCR-1 through TCR-5 would be implemented and would require cultural sensitivity training, signage, tribal monitoring, evaluation of unanticipated discoveries during project construction activities, and protocols for the treatment of Native American human remains during construction. For the same reasons as described in Section 3.13, *Tribal Cultural Resources*, impacts would be reduced to a less than significant level with mitigation (see Impact TCR-1).

Operation

WATER SUPPLY CONVEYANCE FACILITIES

New water connections would be required as part of the project to convey potable water for the new restroom and the hose bibs on the pier. Such upgrades would occur within existing utility rights-of-way and would be located underground, primarily within existing roadways. New water service connections would be consistent with utility expansion in an urbanized built-out area. The proposed project would not require the relocation or construction of new or expanded water facilities beyond those already included as part of the project. Therefore, no impact would occur.

WASTEWATER TREATMENT FACILITIES

EBMUD's Main WWTP provides wastewater collection and treatment to Berkeley, currently treating an average of 63 MGD.[49] The Main WWTP has a total permitted capacity of 120 MGD.[50] Therefore, the Main WWTP has the remaining available capacity of 57 MGD.

Future visitors for the proposed project would generate wastewater that would flow into EBMUD's conveyance system and be treated at the Main WWTP. The proposed project includes the construction of a restroom, and the anticipated wastewater generation for its operation is calculated using the standard that 90 percent of total water use is generated as wastewater flow. The proposed project's anticipated wastewater is approximately 4,293 gallons per day, or 0.006 MGD. The calculations for the estimated wastewater associated with the project are shown in Table 3.14-4 in Impact UTIL-2 below. This anticipated wastewater generation represents approximately 0.01 percent of the 57 MGD capacity available for EBMUD customers. The WWTP's existing wastewater treatment capacity would be sufficient to accommodate the wastewater demand associated with the proposed project. This conclusion that there is sufficient capacity to accommodate the wastewater demand associated with the proposed project is consistent with the scoping comment provided by EBMUD. Therefore, the project would not result in the need to expand the capacity of the WWTP, and impacts would be less than significant.

[49] EBMUD. 2025. Wastewater Treatment. Available: https://www.ebmud.com/wastewater/collection-treatment/wastewater-treatment (accessed April 2025).
[50] SFBRWQCB. 2020. East Bay Municipal Utility District Main WWTP NPDES Permit. Available: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2020/September/EBMUD/tentativeorder_EBMUD.pdf (accessed April 2025).

WASTEWATER CONVEYANCE FACILITIES

The proposed project will require new connections for wastewater conveyance. As described in Section 3.14.2, *Environmental Setting,* wastewater conveyance in Berkeley is provided by 254 miles of City-owned sanitary sewers, 7,200 manholes and other sewer structures, seven sewage pump stations, and approximately 31,600 service laterals. The City is responsible for maintenance and repair of the service laterals (located within the public right-of-way) from the property line cleanout to the connection to the City's sewer main. Such upgrades would occur within existing utility rights-of-way and would be located underground. New water service connections would be consistent with utility expansion in an urbanized built-out area. The proposed project would not require the relocation or construction of new or expanded wastewater conveyance facilities beyond those already included as part of the project.

The proposed project would generate an estimated 0.006 MGD of wastewater per day, which would be approximately 0.01 percent of the remaining capacity at the Main WWTP.[51] Therefore, during dry weather conditions, the proposed project would not require the expansion, relocation, or construction of wastewater conveyance facilities, and existing facilities would have capacity to accommodate the operation of the proposed project.

During wet weather conditions, additional flow could potentially exceed pipeline capacities and create overflow, similar to other sewer pipelines in the City of Berkeley. Pursuant to the City of Berkeley's Private Sewer Lateral Ordinance (Chapter 17.24 of the Berkeley Municipal Code), public entities, including the City, are required to obtain a Sewer Lateral Certificate or demonstrate compliance with applicable standards. The proposed project would be required to eliminate wet-weather infiltration and inflow to private sewer laterals, which would regulate wet-weather contribution from the proposed project. Through compliance with these existing regulations, the City would address any potential impacts associated with infiltration and inflow.

The City of Berkeley also employs a preventive maintenance approach to maintaining the sewer system designed to minimize the occurrences of repeat blockages and sanitary sewer overflows. System-wide preventive maintenance is scheduled each month using the City's computerized maintenance management system.

Accordingly, impacts related to wastewater conveyance would be less than significant.

STORMWATER DRAINAGE FACILITIES

Potential impacts regarding stormwater drainage facilities are discussed in Section 3.8, *Hydrology and Water Quality*. As discussed in that section, the project would be designed to include stormwater drainage and associated facilities. As the project would comply with existing regulations, the proposed project would not require the relocation or construction of new or expanded stormwater drainage facilities beyond those already included as part of the project. Therefore, no impact would occur.

ELECTRIC POWER SUPPLY FACILITIES

The proposed project would include the installation of a 12 kilovolt (kV) PG&E duct bank underneath University Avenue, between a portion of Frontage Road, northeast of the intersection

[51] This projection is based on 57 MGD remaining capacity (120 MGD – 63 MGD) and estimates of wastewater that will be generated by the project as shown in Table 3.14-4 (0.006 MGD based on 2040 ridership projections).
EBMUD. 2021. Urban Water Management Plan. Available: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan. (accessed June 2025).

of University Avenue and Frontage Road; and near the intersection of University Avenue and Seawall Drive (see Figure 2-2). Near the plaza, the 12kV line would be connected to a new PG&E transformer (approximately 8 feet wide, 8 feet long, 2 feet and 8 inches tall) and a main switchboard (11 feet and 3 inches wide, 4 feet and 2 inches long, and 7 feet and 6 inches tall).[52] The project site would be served by two separate underground electrical services. One 1600 amperes (A) main service switchboard would provide 120/208V power to two separately metered 800A switchboards for the low-voltage needs on the pier and landside facilities, such as lighting, card readers, electronic signage, and EV charging. Another 600A main service switchboard would provide dedicated 12kV power to the ferry vessel chargers. The proposed project would not require the relocation or construction of new or expanded electrical facilities beyond those already included as part of the project. Therefore, no impact would occur.

TELECOMMUNICATIONS FACILITIES

Project implementation would require connections to existing telecommunication lines. Based on the availability of existing telecommunications infrastructure throughout the Berkeley Marina, construction of new telephone and cable lines would not be required, and the project site would be able to connect to existing infrastructure. The project would be required to adhere to applicable laws and regulations related to the connection to existing telecommunication infrastructure. Therefore, there would be adequate telecommunications facilities to serve the project. Therefore, no impact would occur.

Mitigation Measures

MITIGATION MEASURE AQ-1: IMPLEMENT CONSTRUCTION EMISSIONS REDUCTION MEASURES DURING CONSTRUCTION

See Section 3.2, *Air Quality*, for mitigation measure details.

MITIGATION MEASURE BIO-1(A): IMPLEMENT WORKER ENVIRONMENTAL AWARENESS PROGRAM (WEAP) PRIOR TO AND DURING CONSTRUCTION

See Section 3.3, *Biological Resources*, for mitigation measure details.

MITIGATION MEASURE BIO-1(B): CONDUCT NORTHWESTERN POND TURTLE SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Section 3.3, *Biological Resources*, for mitigation measure details.

MITIGATION MEASURE BIO-1(C): CONDUCT NESTING BIRD SURVEY AND AVOIDANCE PRIOR TO CONSTRUCTION

See Section 3.3, *Biological Resources*, for mitigation measure details.

MITIGATION MEASURE BIO-2: IMPLEMENT INVASIVE SPECIES PREVENTION DURING CONSTRUCTION

See Section 3.3, *Biological Resources*, for mitigation measure details.

MITIGATION MEASURE CR-1: STOP WORK AND PREPARE AND IMPLEMENT A DATA RECOVERY PLAN IF UNANTICIPATED ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION

See Section 3.4, *Cultural Resources*, for mitigation measure details.

[52] A switchboard is a centralized panel that distributes electrical power to various circuits and includes protective and control devices

MITIGATION MEASURE NOI-1: PREPARE AND IMPLEMENT CONSTRUCTION NOISE MANAGEMENT PLAN PRIOR TO AND DURING CONSTRUCTION

See Section 3.10, *Noise*, for mitigation measure details.

MITIGATION MEASURE TCR-1: CONDUCT CULTURAL RESOURCES SENSITIVITY TRAINING PRIOR TO CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources*, for mitigation measure details.

MITIGATION MEASURE TCR-2: PROVIDE SIGNAGE ACKNOWLEDGING NATIVE AMERICAN HISTORY PRIOR TO OPERATION

See Section 3.13, *Tribal Cultural Resources*, for mitigation measure details.

MITIGATION MEASURE TCR-3: CONDUCT NATIVE AMERICAN MONITORING DURING CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources*, for mitigation measure details.

MITIGATION MEASURE TCR-4: EVALUATE DISCOVERED TRIBAL CULTURAL RESOURCES AND IMPLEMENT RESULTING RECOMMENDATIONS DURING CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources*, for mitigation measure details.

MITIGATION MEASURE TCR-5: PROVIDE RESPECTFUL TREATMENT OF NATIVE AMERICAN HUMAN REMAINS UPON UNANTICIPATED DISCOVERY AND IMPLEMENT RECOMMENDATIONS DURING CONSTRUCTION

See Section 3.13, *Tribal Cultural Resources*, for mitigation measure details.

Level of Significance

Less Than Significant with Mitigation

Water Supply Significance Criterion b:	Would the proposed project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Impact UTIL-2 THE PROPOSED PROJECT WOULD HAVE SUFFICIENT WATER SUPPLIES AVAILABLE TO SERVE THE PROJECT AND REASONABLY FORESEEABLE FUTURE DEVELOPMENT DURING NORMAL, DRY, AND MULTIPLE DRY YEARS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction

The proposed project would require water for construction activities such as dust suppression, construction-related demolition equipment cooling and cleaning, ballast water for final trim adjustments to the Universal Charging Float, water jetting of piles, deep soil mixing, and the mixing of concrete. Water usage for construction activities would be temporary, and limited to the earth-disturbing phases of construction. In addition, water would be provided for portable toilet and sink facilities for construction workers; these are water-efficient facilities that would be provided on-site when construction workers are present and would be removed upon the completion of construction. Due to the temporary nature of these water uses, and the availability of water supply through EBMUD, sufficient water is anticipated to be available to support the project's construction water needs and impacts, and impacts related to use of water during construction would be less than significant.

Operation

Operation of the project would require approximately 6.72 AFY, which would be used to support operation of the water closets, lavatories, urinal, drinking fountain, and hose bibs located at the pier. [53] Water would also be required for landscaping, but this would not introduce a substantial new water demand, as landscaping would only include native, drought-tolerant plants. Water used for landscaping would represent a negligible percentage of overall water demand. Water used for maintenance would be obtained from EBMUD and would be limited to use of hose bibs for cleaning.

Water demand for the operation of the proposed project is estimated using the City of Berkeley's Code Compliance Checklist for Bathrooms and Laundry for standard flow rates for toilets and faucets.[54] Water demand for urinals was estimated CALGreen standard flow rates.[55] All water demand was estimated using the appropriate standard flow rates and WETA ridership projections for the proposed project in its 20th year. Given that WETA has well maintained restroom facilities on its vessels that would be used by most ferry riders, and that recreation visitation is higher on weekends when ferry ridership is lower, this is a conservative approach that adequately reflects use by recreation visitors. As shown in Table 3.14-2, EBMUD has adequate water supplies to meet its projected demands through the year 2050 under normal year and single dry-year conditions with voluntary rationing in place, while water shortages are projected in certain dry years, including with mandatory rationing in place.

As shown in Table 3.14-4, the project is expected to require approximately 0.006 MGD of potable water, or 2.19 million gallons of water per year, to support operation of restroom and drinking water infrastructure. This water demand represents approximately 1.21 percent of the existing EBMUD service area water demand and 1.05 percent of EBMUD's anticipated water demand for the year 2045.[56]

According to the UWMP, the EBMUD service area had a reduction goal of 153 gallons per capita per day (GPCD) by 2020, and in 2020 EBMUD reported its GPCD was 121 GPCD, exceeding its water saving goal. Based on an estimated daily water use of 0.006 MGD by 2040, as calculated above in Table 3.14-4, operation of the project would result in an estimated water demand of approximately 5.5 GPCD, which is substantially lower than EBMUD's targets laid out in the UWMP[57]. Given EBMUD's consistent achievement or exceedance of water savings targets, the operation of the proposed project would have a less than significant impact on water supply in the EBMUD service area.[58]

[53] To convert MGD to gallons per year and gallons per year to acre-feet per year:
Gallons per year = (0.006 MGD) x (1,000,000 gallons/MG) x (365 days/1 year) = 0.006 x 1,000,000 x 365 = 2,190,000 gallons per year
AFY = (2,190.000 gallons / year) / (325,851 gallons / acre-foot) = 6.72 AFY.
[54] Berkeley, City of. 2023. Code Compliance Checklist – Bathrooms and Laundry. Form #163. Available: https://berkeleyca.gov/sites/default/files/2022-02/CCC%20-%20Bathrooms%20and%20Laundry%281%29.pdf (accessed April 2025).
[55] California Building Standards Commission. 2024. 2022 California Green Building Standards Code (CALGreen), Title 24, Part 11 with July 2024 Supplement. Available: https://codes.iccsafe.org/content/CAGBC2022P3/chapter-5-nonresidential-mandatory-measures#CAGBC2022P3_Ch05_SubCh5.3 (accessed April 2025).
[56] EDMUD. 2021. Urban Water Management Plan. Available: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan (accessed August 2025).
[57] GPCD was calculated by dividing projected water use in thousands of gallons by maximum projection of 1,160 (2,320 round trips divided by 2) daily visitors in 2040.
[58] EBMUD. 2021. Urban Water Management Plan 2020. Available: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan (accessed June 2025).

Table 3.14-4 Water Use and Wastewater Flow for Proposed Project Restroom[59, 60]

Fixture	Number of Fixtures	Flow Rate (gallons per minute)[1]	Duration[1]	Ridership[3]	Water Use (GPCD)	Water Use (MGD)[5]	WW Flow (MGD)[5]
Water Closet (gallons per flush)	5	1.28	1 flush	580	3,712	0.004	0.003
Lavatory	4	0.5	0.25 min	1,160	580	0.001	0.001
Urinal	1	0.5	1 flush	580	290	0.0003	0.0003
Drinking Fountain: Bottle Filling[4]	1	1.3[2]	1 min	580	754	0.001	0.001
Drinking Fountain: Regular Use[4]	1	1.3	0.25 min	580	188.5	0.00002	0.0002
Total	**12**	**N/A**	**N/A**	**N/A**	**5,525**	**0.006**	**0.006**

[1] Flow Rate and Duration information from CALGreen.

[2] Drinking Fountain Flow Rate Estimate from Drinking Fountain Buyer Guide.

[3] Ridership uses maximum ridership projections and assumes half of the maximum ridership will use these fixtures. It is estimated that approximately half of the fixture users will use either the water closet or lavatory.

[4] This projection includes the estimation of wastewater flow from one drinking fountain. Flow rates for drinking fountains are highly variable and depend upon the specific plumbing components used, which will be selected during final design and construction of the project and are not currently known. Estimating water usage at drinking fountains also depends upon numerous variables including the number of people who stop to use a fountain, the duration of use by each visitor, and nature of use, such as whether they are filling water bottles as well as drinking from the fountain. In order to quantify drinking water usage for the project, an assumed flow rate of 1.3 gallons per minute due to its location in a high traffic area, based on data published by Kully Supply Specialty Plumbing Store. It was also assumed that half of the visitors of the project would operate the fountain for regular use, while the other half of visitors would operate the fountain to fill reusable water bottles.

[5] Water demand was calculated by multiplying the number of fixtures by the flow rate, estimated duration, and estimated number of users, and converted to MGD.

[6] Wastewater flow was estimated using a standard figure of 90% of wastewater generated from water consumed and multiplying that figure by the estimated water use in MGD for each fixture.

Furthermore, compliance with the water conservation regulations and policies would help to maintain sufficient supplies. The project would be subject to the MWELO (CCR Title 23, Division 2, Chapter 2.7, Sections 490-495). The MWELO, which reinforces landscape irrigation and water conservation best practices currently required by EBMUD's Section 31 Regulations, also would encourage the use of drought-tolerant landscaping and low-flow irrigation systems. Additionally, the project would be subject to CCR Title 23, Chapter 3.5, Section 995, which promotes urban water use efficiency and conservation by prohibiting wasteful water practices such as allowing water to runoff hardscapes. The project would also be subject to other green building and water conservation requirements described in the Water Supply Regulatory Setting. In the event of a regional water shortage, EBMUD's WSCP would guide conservation measures to ensure continued service reliability.

In summary, compliance with regulatory requirements, proactive management of available supplies, and drought response and conservation efforts conducted by EBMUD collectively support the continued reliability of water supplies currently used in the City of Berkeley. EBMUD's WSCP and operational decision-making processes reflect multi-faceted response to drought conditions, when

[59] California Building Standards Commission. 2024. 2022 California Green Building Standards Code (CALGreen), Title 24, Part 11 with July 2024 Supplement. Available: https://codes.iccsafe.org/content/CAGBC2022P3/chapter-5-nonresidential-mandatory-measures#CAGBC2022P3_Ch05_SubCh5.3 (accessed April 2025).
[60] Kully Supply Specialty Plumbing Store. 2023. Drinking Fountain Buyer Guide. Available: https://www.drinkingfountaindoctor.com/drinking-fountain-buyers-guide (accessed May 2025).

they occur, and include the purchase of transfer water when available, for use as drought supply when needed. Although Table 3.14-2 in Section 3.14.2, *Environmental Setting* projects water supply shortages during the third year of multi-year drought conditions, EBMUD's existing operational protocols provide for responses to such conditions, which would be initiated during the first and second years of multi-year drought conditions. Such responses are not reflected in the projections shown, because the specific actions taken will depend upon dynamic conditions during the first two years of the multi-year drought.

Such responses include implementation of the Drought Management Program (DMP), which manages customer demand while meeting obligations on the Lower Mokelumne River. The DMP accounts for various stages of drought severity ranging from normal to critical, with each stage including its own measures, water rates, mandatory rationing, and penalties. Demand reduction measures also include financial incentives and rebate programs to facilitate greater efficiency with regard to water use in its service area. The DMP guided EBMUD through the 2014-2016 drought the region experienced and has since been revised based on lessons and actions that were taken during that drought.[61]

As explained above, sufficient supplies are anticipated to be available during normal water year conditions and single-drought-year conditions, as well as during the first two years of multi-drought-year conditions, with DMP measures being implemented to allow for reliable water service even in third-year drought conditions. Therefore, sufficient water supplies are available to serve reasonably the proposed project, and appropriate systems are in place to address potential drought-related water supply shortages, such that potential impacts would be less than significant.

Mitigation Measures

No mitigation would be required

Level of Significance

Less than Significant

[61] EBMUD. 2021. Water Shortage Contingency Plan 2020. Available: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan (accessed August 2025).

Landfill Capacity and Solid Waste Reduction Regulations

Significance Criterion d:	Would the proposed project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
Significance Criterion e	Would the proposed project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Impact UTIL-3 THE PROPOSED PROJECT WOULD NOT GENERATE SOLID WASTE IN EXCESS OF STATE OR LOCAL STANDARDS, OR IN EXCESS OF THE CAPACITY OF LOCAL INFRASTRUCTURE. THE PROJECT WOULD NOT IMPAIR THE ATTAINMENT OF SOLID WASTE REDUCTION GOALS AND WOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction

Construction of the proposed project would generate soils and demolition debris from the construction of roadways and the pier, which would total approximately 18,000 cubic yards of solid waste. Not all of these materials would end up in a landfill, given recycling requirements. However, because the characteristics of this demolition debris is currently unknown, this analysis uses the conservative assumption that all demolition debris would be taken to a landfill. The landfills near the project site, identified in Table 3.14-3, have a remaining landfill capacity of 146,548,410 cubic yards. The proposed project is expected to generate 18,000 cubic yards of solid waste, which is 0.01 percent of the combined remaining permitted capacity.

Pursuant to CALGreen, the project's construction contractor is required to ensure that 65 percent of non-hazardous construction and demolition debris is recycled or salvaged. CALGreen also requires the project construction contractor(s) to have a waste management plan for onsite sorting of construction debris. In addition to CALGreen requirements, the project would be subject to the City of Berkeley's Construction and Demolition Debris Salvage and Recycling (Ordinance No. 7,156-N.S.), as discussed above in Section 3.14.3, *Regulatory Framework*. This ordinance requires that the project divert 100 percent of concrete and asphalt, 100 percent of excavated soil and land clearing debris (for new construction and on previously undeveloped lots), and at least 50 percent of remaining construction and demolition debris. The City or its contractor(s) would also be required to submit a Waste Diversion Report upon completion of the project to document compliance with these requirements. While the City has adopted a Zero Waste by 2020 goal, the ordinance acknowledges that full diversion may not always be feasible and allows for adjustments based on project-specific constraints. Given that the project would comply with both CALGreen and local diversion mandates, and would generate a negligible fraction of regional landfill capacity, the project would not generate solid waste in excess of state or local standards, impair the City's ability to meet its waste reduction goals, or exceed the capacity of local infrastructure. Therefore, impacts related to solid waste generation during construction would be less than significant.

As described in Chapter 2, *Project Description*, of this EIR, additional waste would be generated by dredging, which involves removing sediment from the bottom of waterbodies to deepen waterways for boats. Approximately 400,000 cubic yards of dredged materials would be generated and would require disposal. Dredged materials would not be sent to a municipal landfill; rather they would be sent to specialized areas that regularly receive dredged materials. Compliance with DMMO

requirements and oversight would result in a less than significant impact for waste generated in the dredging process.

Operation

The proposed project would not generate waste in excess of State or local standards, or in excess of the local infrastructure's capacity to accommodate solid waste. While the proposed project offers Berkeley residents and tourists another recreational opportunity and transportation alternative and would result in a greater number of people traversing through the project site with the potential to generate waste, operation of the project would not induce population growth in such a way that it could result in a noticeable increase in solid waste generation. Similar to typical movement through the City, where trash receptacles are ample, the project site would provide six trash receptacles, which would be collected from and brought to a transfer station weekly.

The USEPA estimates that the average person generates approximately 4.9 pounds of solid waste per day. For conservative estimates, it is assumed that a WETA ferry trip could account for a maximum of 2 hours per day depending on whether an individual takes a round trip. Based on these estimates and WETA's 2040 ridership projections of a maximum 1,160 individual ferry users per day, it is assumed that the project would generate a maximum of 474 pounds, or approximately 1.58 cubic yards of total waste per day.[62,63,64] This would equate to approximately 549 cubic yards per year.[65] These estimates represent a conservative (high-end) scenario based on maximum projected ridership and per capita waste generation, resulting in an overestimate of what the project is likely to generate. Solid waste generated by operation of the project, both landside and waterside, would be collected by the City of Berkeley Public Works Department Zero Waste Division and brought to the Berkeley Transfer Station, which works in tandem with StopWaste and Community Conservation Center for sorting and diversion before going to the Altamont Landfill.

Since 2006, the City of Berkeley has maintained a diversion rate exceeding the state goal of 50 percent waste diversion.[66,67] As shown in Table 3.14-3, the Altamont Landfill has a remaining landfill capacity of 52,300,000 cubic yards and a closure date of 2060, and is expected to have sufficient landfill capacity to serve the project. Given that the project would result in a negligible amount of solid waste generation, operation of the proposed project would not result in solid waste generation in excess of the capacity of local infrastructure and would comply with all solid waste management and reduction statutes. Therefore, there would be sufficient landfill capacity to serve the project during operation, and impacts related to solid waste from operation of the project would be less than significant.

[62]USEPA. 2024. National Overview: Facts and Figures on Materials, Wastes and Recycling. Available: https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials (accessed June 2025).
[63] USEPA. 2016. Volume-to-Weight Conversion Factors. Available: https://www.epa.gov/sites/default/files/2016-04/documents/volume_to_weight_conversion_factors_memorandum_04192016_508fnl.pdf (accessed July 2025).
[64] This solid waste estimate is calculated by multiplying an adjusted solid waste generation rate of 0.41 pounds per ferry trip by the projected maximum ridership of 1,160 (2,320 round trips divided by 2) individuals in 2040. This estimate was converted to cubic yards per day by using a conservative, high-density estimate of municipal solid waste volume of 300 pounds per cubic yard. This was calculated as follows: (474 lb.) / (300 lb./yd^3) = 1.58 cubic yards per day.
[65] (1.58 yd^3/day) x 365 days/year = 549 yd^3/year.
[66] CalRecycle. 2006. Diversion Programs: Jurisdiction Diversion/Disposal Rate Detail. https://www2.calrecycle.ca.gov/LGCentral/%20DiversionProgram/JurisdictionDiversionDetail/43/Year/2006 (accessed July 2025).
[67] Berkeley, City of. 2022. REQUEST FOR PROPOSALS (RFP) Specification No. 22-11477-C FOR CITY OF BERKELEY INTEGRATED ZERO WASTE MANAGEMENT STRATEGIC PLAN. Available: https://rentboard.berkeleyca.gov/sites/default/files/2022-04/22-11477_C_IntegratedZeroWasteManagementStrategicPlan_Final.pdf (accessed April 2025).

Mitigation Measures

No mitigation would be required

Level of Significance

Less Than Significant

3.14.5 Cumulative Impacts

The geographic scope of the cumulative analysis for utilities and service systems varies by utility and service system. A discussion of the geographic scope for each utility and service system is discussed below.

Water

The geographic extent of cumulative analysis for water is the EBMUD service area.

The analysis provided under Impact UTL-2 is cumulative in nature and considers water demand associated with development within EBMUD's service area. EBMUD's average annual demand by customer use under different scenarios contained in Table 3.14-2 indicate that some water use conservation restrictions may be implemented under varying conditions. The UWMP also includes guidelines that future development, including cumulative projects discussed in Chapter 3, *Environmental Impact Analysis Introduction*, would be subject to EBMUD's regulations aimed at encouraging efficient water use, such as Sections 29 and 31 of EBMUD's Regulations Governing Water. Section 29, "Prohibiting Wasteful Use of Water," promotes efficient water use by EBMUD customers and includes additional restrictions on wasteful uses of potable water. Section 31, "Water Efficiency Requirements," identifies the types of water efficiency requirements (i.e. maximum flow rates for flow control devices) for water service. Therefore, cumulative impact related to water supply would be less than significant and cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to water supply and water infrastructure.

Wastewater

The geographic extent of cumulative analysis for wastewater is the service area for the Main WWTP.

Cumulative development in Berkeley will continue to increase demands on the existing wastewater treatment and conveyance facilities. The Main WWTP currently treats approximately 63 MGD, or 52.5 percent of the permitted capacity of 120 MGD.[68,69] The proposed project is anticipated to generate approximately 0.006 MGD of wastewater, equating to approximately 0.01 percent of the remaining capacity at the Main WWTP. Given that the project is expected to generate a marginal fraction of wastewater, the Main WWTP current capacity is sufficient to serve the proposed project and anticipated growth in Berkeley. In addition, the UWMP projects growth through 2045 and indicates sufficient capacity to serve future growth through 2045.[70] New wastewater conveyance is not necessary to serve cumulative development at this time. However, individual improvements to

[68] EBMUD. 2025. Wastewater Treatment. Available: https://www.ebmud.com/wastewater/collection-treatment/wastewater-treatment (accessed July 2025).
[69] SFBRWQCB. 2020. East Bay Municipal Utility District Main WWTP NPDES Permit. Available: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2020/September/EBMUD/tentativeorder_EBMUD.pdf (accessed April 2025).
[70] EBMUD. 2021. Urban Water Management Plan 2020. Table 5-1. Available: https://www.ebmud.com/download_file/force/9151/735?UWMP-2020-FINAL-bookmarks.pdf (accessed March 2025).

the sewer system would occur in existing utility corridors in already developed areas per EBMUD's Regional Private Sewer Lateral Ordinance and regulations under the Consent Decree requirements, as discussed in Section 3.14.3, *Regulatory Framework*. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to wastewater treatment capacity and wastewater infrastructure.

Stormwater

The geographic extent of cumulative analysis for stormwater is the San Francisco Bay Basin.

Required compliance with State and local policies and regulations would reduce stormwater impacts associated with future cumulative development. New development, including cumulative projects discussed in Chapter 3*, Environmental Impact Analysis Introduction*, would be subject to regulatory requirements that reduce impacts related to stormwater runoff, water quality, and flooding on a project-by-project basis (see Section 3.8, *Hydrology and Water Quality* for more information about these requirements). In the regional context, the water quality regulations implemented by the SFRWQCB take a basin-wide approach. For example, the NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the Municipal Regional Permit encompasses all of the surrounding municipalities to manage stormwater systems and be collectively protective of water quality. Compliance with policies and regulatory requirements would avoid significant impacts related to stormwater runoff. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to environmental effects related to installation of stormwater facilities.

Solid Waste

The geographic extent of cumulative analysis for solid waste is the service area for the landfills identified in Table 3.14-3.

Cumulative development in Alameda County will continue to increase solid waste generation for disposal at landfills that serve the County. State-mandated solid waste diversion rates (for recycling) would continue to minimize the quantity of waste directed to area landfills, and compliance with applicable regulations and with General Plan goals, policies, and actions would maintain or improve existing solid waste diversion rates. It is assumed the City of Berkeley will continue to divert at least 65 percent of solid waste from landfills due to its recycling and green waste programs, if not more, in accordance with City Ordinance 7,156-N.S. All cumulative projects would adhere to these existing regulations. In addition, the project would only generate a minimal amount of solid waste during operations, given that it would not result in population growth. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to the capacity at solid waste facilities and compliance with regulations to reduce solid waste.

Electricity, Natural Gas, and Telecommunications

The geographic extent of cumulative analysis for electricity, natural gas, and telecommunications, includes the entire service territories of the providers for each of these utilities.

Electricity

Berkeley residents rely on Ava Community Energy and PG&E as the electricity provider. They are responsible for transmitting electricity to all land uses within its service area, including the Project site. Development considered part of the cumulative analysis includes buildout of local General Plans, the City of Berkeley's Capital Projects, local Plan Bay Area 2050 Transportation Projects, and the maximum development potential in the Draft Waterfront Specific Plan, as shown in Table 3-1 of Chapter 3, *Environmental Impact Analysis Introduction*, of this EIR. PG&E is subject to the requirements set forth and/or enforced by the CPUC. The need for electric infrastructure would be addressed on a case-by-case basis for each cumulative project, and would be subject to CPUC requirements, similar to those applicable to the project. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to environmental effects related to electrical facilities.

Natural Gas

The proposed project would not require any natural gas connections and would result in no impact on natural gas utilities. Because the proposed project would result in no impact on natural gas utilities, the proposed project would not contribute to a cumulative impact.

Telecommunications

Telecommunication services in Berkeley are provided by private companies, including AT&T, Comcast Cable, and Sonic which provides internet, phone, and are available throughout the City. Connections for new telecommunications services are implemented on an as needed basis, and the service provider used is generally at the discretion of the customer. Cumulative projects will establish telecommunications service connections in the same manner as the proposed project. There are no anticipated limitations to the availability of telecommunications service given the urban nature of Berkeley. Therefore, cumulative development in combination with implementation of the proposed project would result in a less than significant cumulative impact with respect to environmental effects related to telecommunication facilities.

Overall Level of Cumulative Significance

Less Than Significant

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3.15 Effects Found Not to be Significant

CEQA Guidelines Section 15128 requires that an EIR briefly describe possible environmental effects that are determined not to be significant. This section discusses the environmental topics that are determined to not result in potentially significant environmental effects. The discussion of such environmental topics relies on the respective checklist questions listed in the 2025 CEQA Guidelines Appendix G.

3.15.1 Agriculture and Forestry Resources

Setting

The Berkeley General Plan Land Use Element does not identify any land use designations for agriculture, forestry land, or timberland within the project site.[1] Additionally, the Berkeley zoning map does not include any zoning designations for agriculture, forestry land, or timberland within the project site.[2] Neither the project site nor areas near the project site contain forest land or significant stands of trees that can be used for timber. There are no areas mapped as Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) in the City of Berkeley, according to the Farmland Mapping and Monitoring Program of the California Department of Conservation.[3] Neither the project site nor areas near the project site are under a Williamson Act contract.[4]

CEQA Guidelines Appendix G Checklist

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to agriculture and forestry resources. Would the proposed project:

a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?
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))?
d. Result in the loss of forest land or conversion of forest land to non-forest use?
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?

[1] Berkeley, City of. 2001. Berkeley General Plan Land Use Element. https://berkeleyca.gov/sites/default/files/documents/02_Land%20Use%20Element-FINAL.pdf (accessed February 2025)
[2] Berkeley, City of. 2023. Berkeley Official Zoning Map. https://berkeleyca.gov/sites/default/files/documents/Official%20Zoning%20Map.pdf (accessed February 2025)
[3] California Department of Conservation. 2025. California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/ (accessed February 2025)
[4] California Department of Conservation. 2025. California Williamson Act Enrollment Finder. https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html (accessed February 2025)

Conclusions

Construction and Operation

As described above in the Setting Section, there are no agricultural lands, including Important Farmlands; Williamson Act lands; or areas zoned for agricultural use, forestry land, or timberland on the project site or adjacent to the project site. Therefore, no construction or operational impacts related to loss of agricultural lands or timberland, conversion of such lands to non-agricultural or non-forestry use, or consistency with Williamson Act contracts or zoning would occur.

3.15.2 Mineral Resources

Setting

There are no known mineral deposits or resources of local importance or value to the region, or to residents of the State in the project site.[5] The project site is mapped in an area classified as Mineral Resource Zone-1, which are for "areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence."[6] Additionally, the General Plan Land Use Element does not contain any land use designations related to mineral resources.[7] There are likewise no existing mining operations in the project site and the closest quarry is the closed quarry on the Brooks Island Regional Preserve, which is located approximately three miles northwest of the project site. [8,9]

CEQA Guidelines Appendix G Checklist

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to mineral resources. Would the proposed project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
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?

Conclusions

Construction and Operation

The project site is not designated as a significant mineral resources zone and is not delineated in any local plan as a locally important mineral resource recovery site. Therefore, no construction or operational impacts related to loss of availability of mineral resources would occur.

[5] California Department of Conservation. 1996. Generalized Mineral Land Classification Map of the South San Francisco Bay Production-Consumption Region. By Susan Kohler-Antablin.
[6] California Department of Conservation. 1996. Generalized Mineral Land Classification Map of the South San Francisco Bay Production-Consumption Region. By Susan Kohler-Antablin.
[7] Berkeley, City of. 2001. General Plan Land Use Element. https://berkeleyca.gov/sites/default/files/documents/02_Land%20Use%20Element-FINAL.pdf (accessed January February 2025)
[8] Mercury News. 2011. Off the Richmond Shoreline, an 'Island in Time' by Katherine Tam of the Mercury News. https://www.mercurynews.com/2011/05/14/off-the-richmond-shoreline-an-island-in-time/ (accessed February 2025)
[9] United States Geological Survey. 2025. Mine Features of the US. https://mrdata.usgs.gov/usmin/map-us.html#settings (accessed February 2025)

3.15.3 Population and Housing

Setting

As of 2025 the current population of Berkeley is estimated at 128,348 with an average household population of 2.16 people per household. [10] The City currently has 55,138 housing units. [11] Since 2000, the City's population has grown steadily, increasing approximately nine percent each decade. Berkeley's population is anticipated to continue to grow steadily between 2020 and 2040 according to the Plan Bay Area 2040 projections. [12] The City's population is anticipated to reach approximately 136,000 by 2030 and 141,000 by 2040. [13]

CEQA Guidelines Appendix G Checklist

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to population and housing. Would the proposed project:

a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Conclusions

Construction

The proposed project's construction may temporarily boost local population growth by employing workers, but these opportunities are short-term and likely to be filled by local residents or workers who commute from surrounding areas. In addition, there are up to 100 live-aboard boats permitted to dock in the Marina Basin that are spread throughout the Marina Basin. [14] As discussed in Section 3.10, *Noise*, of this EIR, these residents would experience an increase in noise associated with construction of the project. However, construction would not directly affect boats docked in the Marina. Given the temporary nature of construction activities, any potential impacts related to construction would not result in temporary displacement of people or housing during construction. Therefore, there would be no impact from construction related to induced substantial population growth.

[10] California Department of Finance. 2025. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2025 with 2020 Benchmark. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/ (accessed July 2025)

[11] California Department of Finance. 2025. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2025 with 2020 Benchmark. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/ (accessed July 2025)

[12] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Plan Bay Area, Projections 2040. http://projections.planbayarea.org/ (accessed February 2025)

[13] Berkeley, City of. 2023. General Plan, Housing Element Available: https://berkeleyca.gov/sites/default/files/documents/Berkeley_2023-2031 Housing Element_02-17-2023v2_1.pdf (accessed February 2025)

[14] McNulty, Liza. 2024. Capital Improvement Program Manager, City of Berkeley Parks, Recreation & Waterfront Department. Personal communication via email regarding live-aboard boats with Kim Avila, Kelsey Bennett, and Leo Mena of Rincon Consultants, Inc. September 4.

Operation

Operation of the proposed project would not directly contribute to population growth, as it does not involve the addition of housing. Operation of the proposed project does provide new ferry service, which could potentially induce population growth due to the increased accessibility provided by the expanded ferry services. However, as explained further below, any potential growth that could result from the proposed project would not be considered unplanned. Plan Bay Area 2050, prepared by the Metropolitan Transportation Commission and Association of Bay Area Governments in 2021, provides a framework for what is considered planned population growth for the Bay Area region.[15] Plan Bay Area 2050 identifies growth geographies, which are:

> …geographic areas used to guide where future growth in housing and jobs would be focused under the plan's strategies over the next 30 years. These geographies are identified for growth either by local jurisdictions or because of their proximity to transit or access to opportunity.[16]

The project site is located in a Transit Rich Area or a TRA, as identified in Map 1.1 of Plan Bay Area 2050.[17] TRAs are:

> Areas near rail, ferry or frequent bus service that were not already identified as [Priority Development Areas]. Specifically, these are areas where at least 50% of the area is within 1/2 mile of either an existing rail station or ferry terminal (with bus or rail service), a bus stop with peak service frequency of 15 minutes or less, or a planned rail station or planned ferry terminal (with bus or rail service).

The Plan Bay Area 2050 EIR concluded that "[a]reas close to rail, ferry, or frequent bus service (TRAs) were also included as growth geographies to support climate emissions goals, with more housing near transit allowing more people to have access to sustainable transportation options" and that "[o]verall the Plan accommodates forecasted growth through implementation of the Plan's land use strategies to intensify density in developed areas, rather than induces unplanned growth."[18]

The area around the project site has been identified as an area where non-residential growth is planned, including a planned ferry facility; therefore, any growth that occurs in the future as a result of the new ferry service would be considered planned. In addition, WETA has planned for a ferry facility in the City of Berkeley for over two decades. The Ferry Transit Service in the San Francisco Bay Area Final Program EIR prepared by WETA in 2003 identifies that it would implement the 2002 Implementation and Operations Plan or IOP, which includes expanded ferry service in Berkeley.[19] Furthermore, any future growth in and near the project site would require a separate planning process and environmental review to plan for that growth. Therefore, the proposed project would not result in unplanned population growth.

[15] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Plan Bay Area 2050. https://planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf. (accessed June 2025).
[16] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Plan Bay Area 2050. https://planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf. (accessed June 2025).
[17] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Plan Bay Area 2050. https://planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf. (accessed June 2025).
[18] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Land Use, Population, and Housing Section of the Draft Program Environmental Impact Report for Plan Bay Area 2050. June. https://planbayarea.org/sites/default/files/documents/2021-06/3.11%20Land%20Use_DEIR.pdf. (accessed June 2026).
[19] WETA. 2003. Final Program Environmental Impact Report. Expansion of Ferry Transit Service in the San Francisco Bay Area. June. Prepared by URS Corporation.

In addition, there would be no displacement of residents. The only nearby residences are approximately 100 live-aboard boats and houseboats in the Marina Basin, which would not be displaced by the proposed project.[20] No other existing housing is located on the project site; therefore, the proposed project would not displace existing housing or people nor necessitate the construction of replacement housing elsewhere.

Therefore, no operational impact related to induced unplanned population growth or displacement of local residents or housing units would occur.

3.15.4 Public Services

Setting

Fire Protection

Emergency response is provided by the Berkeley Fire Department (BFD). BFD provides fire suppression, paramedic ambulance service, search and rescue (inclusive of water rescue), fire prevention inspections/permits, public fire education programs, emergency preparedness planning, and other services based on community needs. The City has seven fire stations, each with a respective response district. The project site is within Fire Response District 6.[21] The Station 6 firehouse is located at 999 Cedar Street, approximately one mile east-northeast of the project site.

As of December 2023, as documented in a City-contracted Standard of Cover Study and Community Risk Assessment, BFD call processing is taking longer than best practice. Although crew turnout performance was nearly meeting recognized best practice goals, first-unit travel performance was nearly one minute longer than the five-minute best practice goal due to factors including station location, open spaces, terrain, and traffic congestion. Based upon recommendations provided in the Berkeley Standard of Cover Study, the City is working to increase staffing levels for firefighters as well as non-firefighter paramedics. Based on a Berkeley Fire Department Facilities Master Plan, also completed in 2023, the City is working to remodel or replace its headquarters, seven firehouses, and training center.[22] In addition, BFD is also in the process of adopting a Response Time Performance policy.[23]

Police Protection

Police protection in Berkeley is provided by the Berkeley Police Department (BPD). The project site is located within Police Beat 14 and within Community Services Bureau Area 4, which covers Beats 11, 12, 13, and 14, and includes the Gilman District, Solano Avenue Business Improvement District,

[20] McNulty, Liza. 2024. Capital Improvement Program Manager, City of Berkeley Parks, Recreation & Waterfront Department. Personal communication via email regarding live-aboard boats with Kim Avila, Kelsey Bennett, and Leo Mena of Rincon Consultants, Inc. September 4.
[21] Berkeley, City of. 2022. Berkeley Fire Districts. https://berkeleyca.gov/sites/default/files/2022-02/Berkeley-Fire-Districts-Map.pdf (accessed February 2025)
[22] Berkeley, City of. 2023. Berkeley Fire Department Facilities Master Plan (Special Meeting Item No. 2). https://berkeleyca.gov/sites/default/files/documents/2023-05-16%206pm%20Special%20Item%2002%20Fire%20Department%20Facilities.pdf (accessed December 2025).
[23] Berkeley, City of. 2023. Berkeley Standards of Cover Study and Community Risk Assessment, Volume 1 of 2 – Technical Report. December 13. https://berkeleyca.gov/sites/default/files/documents/2024-01-24%20%20%20Final%20report%20recommendations%20from%20the%20Standards%20of%20Coverage%20and%20Community%20Risk%20Assessment%20Study.pdf (accessed February 2025)

and Fourth Street Shops Berkeley.[24] The nearest BPD police station is approximately two miles to the east of the project site, located at 2100 Martin Luther King Junior Way in the City of Berkeley.

As of September 2024, the BPD was operating with an authorized (budgeted) total staffing level of 313.2 employees, which included 181 total authorized sworn staff. This provided a ratio of approximately 647 citizens per officer or 1.55 officers per 1,000 citizens; however, when these ratios are adjusted for actual, current BPD staffing versus authorized personnel, the ratios shift to 781 residents per sworn officer and 1.28 officers for 1,000 citizens.

Schools

The project site is served by the Berkeley Unified School District which is responsible for educating more than 9,400 individuals in 11 public elementary schools, three middle schools, two high schools, three preschool facilities, and one Adult School.[25]

Parks and Other Public Facilities

For a discussion of public parks and recreation facilities, see Section 3.11, *Recreation*. Other public facilities include public libraries.

Library services are provided by the Berkeley Public Library. Berkeley's public library system is comprised of six libraries: Central Library, Claremont Branch, North Branch, Terea Hall Pittman South Branch, Tool Lending Library, and West Branch. The Berkeley Public Libraries is one of the most heavily used libraries in California, serving a local population of 118,950 and more from the surrounding area.[26] The nearest library branch is Berkeley Public Library West Branch located at 1125 University Ave, which is 1.31 miles away from the project site.

CEQA Guidelines Appendix G Checklist

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to public services. Would the proposed project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for 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:
   - Fire protection;
   - Police protection;
   - Schools;
   - Parks; or
   - Other public facilities?

Note that while Appendix G of the *CEQA Guidelines* includes a question related to parks, the discussion of this Appendix G question is included in Section 3.11, *Recreation,* of this EIR.

[24] Berkeley Police Department. 2024. Community Services Bureau. https://bpd-transparency-initiative-berkeleypd.hub.arcgis.com/pages/Community%20Engagement (accessed February 2025)
[25] Berkeley Unified School District. 2024. About Berkeley Unified School District. https://www.berkeleyschools.net/about-the-district/about/ (accessed February 2025)
[26] Berkeley Public Library.2024. About https://www.berkeleypubliclibrary.org/about (accessed February 2025)

Conclusions

Construction

Construction activities and personnel would not require expanded or new fire protection, police protection, school, or library facilities beyond existing conditions, given the temporary nature of construction activities, which would not affect service ratios. For example, police and fire vehicles would still be able to access the site even as roadways are being worked on, as explained in Section 3.12, *Transportation.* Therefore, no construction impact related to potential need for new or expanded fire, police, school, or library facilities would occur.

Operation

As explained in Section 3.15.3, *Population and Housing,* the proposed project would not generate direct or indirect unplanned population growth. For that reason, operation of the proposed project would not generate a need for additional school or library facilities, and no impact would occur.

Operation would be required to comply with all applicable federal, State, and local regulations governing the provision of fire protection services, including adequate fire access, fire flows, and number of hydrants. This includes the California Fire Code, which contains standards for new structures, road widths and configurations designed to accommodate the passage of fire trucks and engines, and requirements for sprinkler systems and minimum fire flow rates for water mains. In addition, ambulances and fire trucks would be able to access the entire project site, including the pier itself and provide emergency response for emergencies that happen on the pier. The Charging Floats would have built-in fire suppression, and there would be hose bibs on the pier that allow connections for water. Finally, project operation would provide emergency service as needed, which would augment BPD and BFD during an emergency event by facilitating the movement of people and supporting emergency response efforts during an emergency. The project would be designed to remain operational after a natural disaster. No operational impact related to potential need for new or expanded fire or police facilities would occur.

3.15.5 Wildfire

Setting

The California Department of Forestry and Fire Protection, also known as CalFire, maintains mapping of Fire Hazard Severity Zones. The project site and adjacent lands are not located in or near a State Responsibility Area. The closest State Responsibility Area is in the Berkeley hills, more than 4 miles east of the project site.[27] In addition, the project site and adjacent land are not located in or near a Very High Fire Hazard Severity Zone for a Local Responsibility Area. The closest Very High Fire Hazard Severity Zone in a Local Responsibility Area is located just east of the UC Berkeley Campus, more than 3 miles east of the project site.[28]

[27] California Department of Forestry and Fire Protection. 2025. Fire Hazard Severity Zones in State Responsibility Area. https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008 (accessed February 2025)
[28] California Department of Forestry and Fire Protection. 2025. City of Berkeley – Alameda County Local Responsibility Area Fire Hazard Severity Zones. As Identified by the Sate Fire Marshall. February 24. https://calfire.app.box.com/s/wahuw9ny7cgn89xpxh7092ur50r1pwvj/file/1785859903146. (accessed February 2026)

CEQA Guidelines Appendix G Checklist

The City of Berkeley utilizes the following 2025 CEQA Guidelines Appendix G significance criteria questions related to wildfire. Would the proposed project:

a. Be located in or near State responsibility areas or lands classified as very high fire hazard severity zones and substantially impair an adopted emergency response plan or emergency evacuation plan?
b. Be located in or near State responsibility areas or lands classified as very high fire hazard severity zones and due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
c. Be located in or near State responsibility areas or lands classified as very high fire hazard severity zones and require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
d. Be located in or near State responsibility areas or lands classified as very high fire hazard severity zones and expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Conclusions

Construction and Operation

Note that the discussion of whether project construction or operation could result in wildfire exposure to people or structures is included in Section 3.7, *Hazards and Hazardous Materials,* of this EIR. The project site is not located in or near a State Responsibility Area or a Very High Fire Hazard Severity Zone. Therefore, no construction or operational impacts related to exacerbating wildfire risk within or near such designated land areas would occur.

4 Other CEQA Required Discussions

This chapter discusses growth-inducing impacts and irreversible environmental impacts that would be caused by the proposed project.

4.1 Significant Environmental Effects that Cannot be Avoided

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Implementation of the proposed project would result in significant and unavoidable project-level and cumulative impacts related to the following:

- **Project-level Impacts**
  - Project-level waterside construction noise associated with pile driving and nighttime construction work noise (see Section 3.10, *Noise)*;
  - Project-level impacts related to the construction of new recreational facilities due to construction noise;
  - Project-level impacts related to consistency with a regulation adopted for the purpose of avoiding or mitigating an environmental effect due to construction noise impacts (see Section 3.9, *Land Use and Planning*).
- **Cumulative Impacts**
  - Cumulative waterside construction noise associated with pile driving and nighttime construction (see Section 3.10, *Noise)*;
  - Cumulative operational mobile (i.e., roadway vehicle) noise (see Section 3.10, *Noise);*
  - Cumulative impacts related to the construction of new recreational facilities due to construction noise and cumulative operational noise impacts (see Section 3.11, *Recreation*);
  - Cumulative impacts related to consistency with a regulation adopted for the purpose of avoiding or mitigating an environmental effect due to construction and operational noise impacts (see Section 3.9, *Land Use and Planning*).

4.2 Growth Inducing Impacts

There are two types of growth-inducing impacts that a project may have: direct and indirect. To assess the potential for growth-inducing impacts, the proposed project's characteristics that may encourage and facilitate activities that individually or cumulatively may affect the environment must be evaluated. CEQA Guidelines Section 15126.2(d) requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The CEQA Guidelines, as interpreted by the City, state that a significant growth-inducing impact may result if the proposed project would:

- Induce substantial population growth in an area (for example, by proposing or facilitating new residences or employment-generating uses beyond the land use density/intensity envisioned in the general plan or other regional planning documents, such as Plan Bay Area 2050+);
- Substantially alter the planned location, distribution, density, or growth rate of the population of an area; or
- Include extensions of roads or other infrastructure not assumed in the general plan or adopted capital improvements project list when such infrastructure exceeds the needs of a project and could accommodate unplanned future development.

Direct growth-inducing impacts occur when the implementation of a project imposes new burdens on a community by directly inducing population growth, or by leading to the construction of additional developments in the same area. Also included in this category are projects that remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant with excess capacity that could allow additional development in the service area). The proposed project would not entail housing or employment-generating office or commercial uses, and would not alter the planned location, distribution, or growth rate of Berkeley population.

Construction of transportation and recreational infrastructure, such as the proposed project, have the potential to facilitate and serve growth. Projects that physically remove obstacles to growth, or projects that indirectly induce growth, may provide a catalyst for future unrelated development in an area such as a new residential community that requires additional public and transportation services to support residents. While the proposed project would entail additional public transit infrastructure in the form of ferry service, a raised cycle track, and improved bus stops, the proposed additional transit service provided via the proposed project would serve existing transportation demands and provide an alternative mode of transportation in lieu of single-occupancy vehicle Transbay trips from the East Bay to San Francisco. For these reasons, implementation of the proposed project would not result in direct or indirect growth-inducing impacts.

4.2.1 Population and Employment Growth

The proposed project would not directly generate population or employment growth, because it would not include the development of residential, commercial, or industrial uses. The proposed project would entail the implementation of new ferry service between Berkeley and San Francisco. The following discussion is focused on the potential for the new ferry service to result in unplanned population and employment growth.

The implementation of new ferry service would allow individuals to commute from Berkeley to San Francisco via ferry vessels. The proposed project may induce population growth if the new ferry service results in land use changes that would support unplanned intensified development. However, this is not expected to occur given the current planning for the project site and adjacent area. Specifically, as discussed in Section 3.15, *Effects Found Not to be Significant* (see Section 3.15.3, *Population and Housing*), Plan Bay Area 2050 identifies that the area around the project site has been identified as an area where growth is planned, including a planned ferry terminal;

therefore, growth that occurs in the future as a result of the new ferry service would be considered planned.[1]

Furthermore, as shown in Section 3.9*, Land Use and Planning*, the project is overall consistent with the policies in local plans, including the Berkeley General Plan. Future growth in the area near the project site would require approvals from the City of Berkeley, and the City is currently in the process of updating its Waterfront Specific Plan that would facilitate additional development in the area. As shown in Table 3-1, the Draft Waterfront Specific Plan is considered as part of the cumulative scenario for this EIR. Overall, the proposed ferry service would be beneficial and complementary to land use and future growth plans. For these reasons, implementation of the proposed project would not lead to direct or indirect growth impacts beyond what is anticipated and planned for the region.

4.2.2 Removal of Obstacles to Growth

The proposed project is located in an area that is well served by existing utility and roadway infrastructure. As described in Chapter 2, *Project Description*, the project would include utility infrastructure extensions that would connect to existing utility infrastructure, including electrical, water, wastewater, and telecommunication connections. Because these utility extensions and connections would be sized to serve the proposed project, they would not result in the removal of an obstacle for growth. The proposed project would also include roadway improvements, specifically the repaving and restriping of University Avenue (between Marina Boulevard and Seawall Drive) and Seawall Drive. However, these roadway improvements would not present a significant change to existing roadway circulation and would be intended to accommodate expected roadway vehicle volumes and project site access needs. No new roads would be required. The project would not require the extension of new utility or roadway infrastructure through undeveloped areas.

Furthermore, since the proposed project would not extend utility or roadway services into undeveloped areas, propose new housing or businesses, or create infrastructure that would attract additional population growth, it would not induce substantial unplanned population growth, either directly or indirectly. Therefore, project operation would not conflict with land use policies of Plan Bay Area 2050. For these reasons, project implementation would not remove an obstacle to growth.

4.3 Irreversible Environmental Effects

CEQA Guidelines Section 15126(c) requires that EIRs contain a discussion of significant irreversible environmental changes and analyze the extent to which a project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. "Significant irreversible environmental changes" include the use of nonrenewable natural resources during implementation of the project, should this use result in the unavailability of these resources in the future. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified.

[1] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. Plan Bay Area 2050. https://planbayarea.org/sites/default/files/documents/2021-05/Draft_Plan_Bay_Area_2050_May2021_0.pdf. (accessed June 2025).

CEQA also requires decision-makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This discussion addresses the use of non-renewable resources and irreversible impacts associated with the construction and operation of the proposed project.

Construction of the proposed project would include the use of building materials and energy, some of which would be non-renewable resources. Consumption of these resources would occur with any development in the Bay Area region and are not unique to the Berkeley Waterfront area or the proposed project. However, as discussed in Section 3.6, *Greenhouse Gas Emissions and Energy*, use of such resources is not unusual compared to common construction projects and would not substantially affect the availability of such resources.

The project would require an irreversible operational commitment of City services, including electricity, water supply, and wastewater treatment. As discussed in Section 3.15, *Effects Found Not to be Significant* (see Section 3.15.4, *Public Services*) and Section 3.14. *Utilities and Service Systems*, impacts to public services and utilities would be less than significant. While the project would result in an irreversible commitment of City services, the project would also offer emergency services, such as the emergency movement of survivors, first responders, and disaster service workers following a major disaster.

Because the proposed project would implement electric ferry service, operation of ferry service would not increase local demand for non-renewable energy resources such as petroleum fuel and natural gas. The proposed project would, however, increase the demand for electricity to power the ferry vessels and the associated infrastructure on the project site (i.e., lighting, restroom). As described in Section 3.6, *Greenhouse Gas Emissions and Energy*, electricity includes both renewable and non-renewable sources, with sources becoming increasingly more renewable to comply with SB 100 requirements. The project's consumption of electricity would constitute, in part, an irreversible consumption of some non-renewable sources.

While there would be no new population and housing growth and associated roadway vehicle trips resulting from implementation of the proposed project, additional roadway vehicle trips to access the project site to utilize project ferry and recreational services would increase petroleum fuel use by such vehicles. However, as discussed in Section 3.12, *Transportation*, on balance the project would result in an overall reduction in vehicle miles traveled or VMT. Therefore, the project would replace existing roadway vehicle trips that use petroleum fuel for the entirety of travel from the East Bay to San Francico with shorter roadway vehicle trips to access the project site and then use the electric ferry to traverse to San Francisco. Therefore, the irreversible environmental effect from roadway vehicle petroleum use and associated generated criteria pollutants, toxic air contaminants, and greenhouse gas emissions would be less than compared to existing conditions. Furthermore, the project would provide new electric roadway vehicle charging parking spaces that could encourage roadway vehicle users to opt for use of electric-run rather than petroleum-run vehicles.

As discussed in Section 3.15, *Effects Found Not to Be Significant*, and above in Section 4.2, *Growth Inducing Impacts*, the proposed project would not extend services to unplanned development, propose new housing or businesses, or create infrastructure that would attract additional population growth. Therefore, the proposed project would not induce substantial unplanned population growth, either directly or indirectly, that would result in the commitment of nonrenewable resources needed to support unplanned population growth.

4.4 Mandatory Findings of Significance

Pursuant to CEQA Guidelines Appendix G Section XVIII, the following mandatory findings of significance analysis is provided.

a. Does the proposed plan have the potential to substantially 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, substantially 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?

The proposed project would not eliminate or threaten wildlife habitats. As discussed in more detail in Section 3.3, *Biological Resources*, implementation of the proposed project could result in construction and operational impacts related to wildlife, fish, and plant species. However, with implementation of identified mitigation measures, biological resources impacts would be less than significant with mitigation. The proposed project would also not eliminate important examples of the major periods of California history or prehistory. As discussed in more detail in Section 3.4, *Cultural Resources,* and Section 3.13, *Tribal Cultural Resources*, implementation of the proposed project could result in construction impacts related to historic, archaeological, and tribal resources. However, with implementation of identified mitigation measures, cultural and tribal cultural resources impacts would be less than significant with mitigation.

b. Does the proposed plan 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)?

Cumulative impacts are discussed throughout this EIR, in the individual environmental resource topic sections of Chapter 3. Section 3.10, *Noise,* identifies that it is possible that construction of the proposed project and other cumulative projects could occur at the same time. This section also identifies that even with implementation of project mitigation and the cumulative project adhering to City construction noise thresholds, it is possible that construction noise levels may still exceed the City thresholds due to the quantity of cumulative projects and their close proximities to one another. As such, this EIR concludes that the proposed project's contribution to a potentially significant construction-related cumulative noise impact could be significant and unavoidable (if construction of cumulative projects occur at the same time as the Project).

In addition, while the proposed project would not individually result in a significant roadway vehicle operational noise impact, when other cumulative projects are considered (namely the maximum potential development associated with the Draft Waterfront Specific Plan) in conjunction with the proposed project, the proposed project would have a significant and unavoidable contribution to a cumulative roadway vehicle operational noise impact. Because of this cumulative impact, the proposed project would also result in cumulative impacts related to environmental effects from the implementation of new recreational facilities, as well as consistency with a regulation (Berkeley Municipal Code) adopted for the purpose of avoiding or mitigating an environmental effect.

c. Does the proposed plan have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed project would result in adverse effects on human beings. As discussed in more detail in Section 3.2, *Air Quality*, and Section 3.10, *Noise*, implementation of the proposed project could result in temporary construction impacts related to air quality and noise that could, in turn, affect human beings. With implementation of identified mitigation measures, temporary construction impacts associated with air quality (criteria air pollutants and toxic air contaminants) and some of the temporary construction impacts associated with noise would be less than significant or less than significant with mitigation. However, there remains potential for significant and unavoidable adverse impacts to human beings due to noise generated during waterside construction and nighttime construction work. In addition, the project's contribution to the cumulative operational mobile (i.e., roadway vehicle) noise impact would be significant and unavoidable.

5 Alternatives

5.1 Introduction

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15126.6, this chapter contains a comparative impact assessment of alternatives to the proposed project. The primary purpose of an alternatives analysis under CEQA is to provide decision-makers and the public with a reasonable range of feasible alternatives to the proposed project that could attain most of the basic project's objectives, while avoiding or reducing any of the project's significant adverse environmental effects.

Analysis of three alternatives to the proposed project is provided for informational purposes and to allow decision-makers to consider the proposed project in light of hypothetical alternatives, thereby promoting CEQA's purpose as an information disclosure statute. This analysis is guided by the following considerations set forth under CEQA Guidelines Section 15126.6:

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting an alternative include:
  - Failure to meet most of the basic project objectives;
  - Infeasibility; or
  - Inability to avoid significant environmental effects.

5.2 Significant Impacts

The implementation of the proposed project was analyzed for potentially significant impacts related to each of the environmental issues discussed in Sections 3.1 through 3.14. The results of the analysis indicate that the proposed project would result in the following significant and unavoidable impacts:

- Land Use and Planning (inconsistency with noise standards established by the Berkeley Municipal Code)
- Noise (waterside construction noise impacts associated with pile driving and nighttime construction noise)
- Recreation (construction noise impacts related to the construction of a recreational resource)

In addition, the results of the analysis indicate that the proposed project would result in the following significant impacts that would be reduced to a less-than-significant level with mitigation:

- Aesthetics (construction impacts related to nighttime lighting)
- Air Quality (construction impacts related to criteria air pollutants and Toxic Air Contaminants)
- Biological Resources (construction impacts on special-status species, sensitive marine habitats, jurisdictional waters, and consistency with local policies protecting biological resources; and operation impacts on special-status species, jurisdictional waters, wildlife movement, and consistency with local policies protecting biological resources)

- Cultural Resources (construction impacts related to unanticipated archaeological resources)
- Geology and Soils (construction impacts related to unique paleontological resource or geologic feature)
- Hydrology and Water Quality (waterside construction impacts related to water quality)
- Noise (landside construction noise impacts)
- Tribal Cultural Resources (construction impacts related to unknown tribal cultural resources)
- Utilities and Service Systems (construction-related impacts from connections to utilities)

5.3 Project Objectives

As described in Chapter 2, *Project Description*, the City's project objectives are as follows:

- Enhance public access and recreational opportunities at the Berkeley Waterfront that:
  - Develop or enhance public pier facilities at the City of Berkeley Waterfront.
  - Provide sufficient public access and recreational opportunities at the Berkeley Waterfront that meet regional needs, consistent with BCDC Bay Plan Policies maximizing access to the Bay.
  - Minimize environmental impacts by considering existing infrastructure and sea level rise projections.
  - Encourage the use of public transit, bicycle, and other forms of active transportation and sustainable travel to access the site.
- Provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco that:
  - Improves regional connectivity and resiliency with enhanced public transportation choices for East Bay residents, including for accessing jobs in San Francisco and other locations along the Bay for commerce and recreational purposes, and to address existing deficiencies in the Transbay transportation network.
  - Reduces the use of single-occupancy vehicles for Transbay trips, thereby reducing greenhouse gas (GHG) emissions and air quality emissions and decreasing congestion on the regional roadway system, consistent with regional and Statewide goals.
  - Provides travel times and costs that are competitive with other Transbay modes of travel.
  - Provides public transit facilities that are compatible with operations and recreational activities at the Berkeley Waterfront.
  - Provides navigable conditions for safe and efficient operation of ferry vessels.
  - Provides options for emergency response and transportation services in case of an emergency, such as natural or human-caused event that disables roads, other transit, bridges, and/or tunnels.

For the purposes of this alternatives analysis, the City considers the two top bullets as the basic project objectives. In other words, for an alternative to meet the basic project objectives, they would need to meet of the following basic objectives: (1) enhance public access and recreational opportunities at the Berkeley Waterfront and (2) provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco.

5.4 Alternatives to the Proposed Project

Pursuant to CEQA Guidelines Section 15126.6, this EIR presents a range of reasonable alternatives to the proposed project for analysis and evaluation of their comparative merits. These alternatives are considered to cover the range of alternatives that would meet the basic objectives of the project while lessening one or more of its significant impacts. CEQA Guidelines Section 15126.6(a) states that an EIR need not evaluate every conceivable alternative. Information has been provided for each alternative that would allow meaningful comparison with the proposed project.

The four alternatives to the proposed project analyzed in this chapter are as follows:

- **Alternative 1:** No Project Alternative
- **Alternative 2:** Shortened Breakwater Alternative
- **Alternative 3:** Shortened Pier Alternative
- **Alternative 4:** Reduced Landside Facilities Alternative

Table 5-1 shows the alternatives' components summary; this EIR Alternatives analysis examines the net change from the proposed project in terms of potential physical environmental impacts. Detailed descriptions of the alternatives are included in the impact analyses for each alternative in Sections 5.5 through 5.8.

Table 5-1 Alternatives Summary

Feature	Proposed Project	Alternative 1 (No Project)	Alternative 2 (Shortened Breakwater)	Alternative 3 (Shortened Pier)	Alternative 4 (Reduced Landside Facilities)
Length of Pier (Feet)	1,080	0	1,080	<1,080	1,080
Length of Breakwater (Feet)	400	0	<400	400	400
Landside Facilities	Cycle Track, Bay Trail Extension, Public Plaza, Renovated Sewall Drive Parking Lot	None of the improvements identified for the proposed project	Same as the proposed project	Same as the Proposed Project	Pier abutment and retaining wall required to complete the pier

5.5 Alternative 1: No Project Alternative

5.5.1 Description

CEQA Guidelines Section 15126.6(e)(2) requires that the alternatives discussion include an analysis of a "No Project" Alternative. Pursuant to CEQA, the "No Project" Alternative refers to the analysis of existing conditions and what would reasonably be expected to occur in the foreseeable future if the proposed project was not approved. This is based on current plans and consistent with available infrastructure information. Pursuant to CEQA Guidelines 15126.6(e)(3)(a,b), the "No Project" Alternative typically will proceed along one of two lines: (1) when a project is a revision of an existing regulatory plan or policy, the "No Project" Alternative will be continuation of the existing plan or policy; or (2) if a project is something other than a land use regulatory plan, such as a development project on identifiable property, the "No Project" Alternative is the circumstance

under which a project does not proceed. Thus, in the case of this EIR for a project and not a plan, the "No Project" Alternative would entail the circumstance under which a project does not proceed.

Under the No Project Alternative, none of the improvements associated with the project and the current uses would remain. Below is a summary of the No Project Alternative.

- The pier, breakwater, and associated infrastructure for the ferry vessels would not be installed, and the pier would continue to deteriorate and remain closed to the public.
- No new ferry service from Berkeley would be established and vehicle trips across the Bay would continue at their current rate.
- No new public plaza would be installed.
- None of the improvements along University Avenue or Seawall Drive would be installed, including no new cycle track, no upgraded bus facilities, and no Bay Trail Extension. Vehicles, buses, pedestrians, and bicyclists would continue to use the existing facilities.
- The Seawall Drive East Parking lot would remain in its current condition.
- None of the construction associated with the project would occur.

5.5.2 Impact Analysis

Aesthetics

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged, and vehicle trips across the Bay would continue at their current rate. The Waterfront would not undergo any aesthetic improvements that would otherwise be facilitated by the proposed project. Furthermore, residents would have limited opportunities to access the scenic quality of the Waterfront, as under Alternative 1, the pier would remain closed and the Waterfront would continue to deteriorate. However, there would be no adverse construction-related impacts to aesthetics. Therefore, Alternative 1 impacts to aesthetics would be less than significant.

The proposed project's impacts related to aesthetics would be less than significant with mitigation (see Section 3.1, *Aesthetics*). Alternative 1 would have a greater level of aesthetics impacts compared to the proposed project, but not to the extent of increasing the impact significance level. This greater level of impact would be due to the lack of an update in the design, lighting standards, and Waterfront improvements that the proposed project would provide. While Alternative 1 would not require Mitigation Measure AES-1, since it would not require nighttime construction, these would be temporary impacts, while the overall lack of updating the project site would be a permanent effect. For that reason, Alternative 1 would have a greater impact than the proposed project.

Air Quality

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged, and vehicle trips across the Bay would continue at their current rate. There would not be any temporary construction-related impacts on air quality. However, in the long term, there would be fewer reductions in criteria pollutants, as Bay Area residents would continue to utilize single-occupancy

vehicles for transbay transportation. Alternative 1 impacts on air quality would be less than significant.

The proposed project's impacts related to air quality would be less than significant with mitigation (see Section 3.2, *Air Quality*). Alternative 1 would not result in the construction-related emissions associated with the proposed project. However, Alternative 1 would result in greater levels of criteria pollutant and toxic air contaminant emission due to the continued projected growth in the region. Without the implementation of zero-emissions transportation infrastructure, Alternative 1 would have greater Air Quality emissions impacts compared to the proposed project.

Biological Resources

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged, and vehicle trips across the Bay would continue at their current rate. Alternative 1 would not adversely affect terrestrial or marine wildlife or habitats, as Alternative 1 would not involve any ground disturbance, construction, or operation of ferry service. Therefore, Alternative 1 would have no impact on biological resources.

The proposed project's impacts related to biological resources would be less than significant with mitigation (see Section 3.3, *Biological Resources*). Alternative 1 would result in reduced impacts on biological resources, as there would be no project construction. Therefore, the impact significance level would be reduced, and no mitigation would be required.

Cultural Resources

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. No construction-related ground disturbance would occur, and therefore, Alternative 1 would not pose any potential risk of altering cultural resources. Therefore, Alternative 1 would have no impact on cultural resources.

The proposed project's impacts related to cultural resources would be less than significant with mitigation (see Section 3.4, *Cultural Resources*). Alternative 1 would result in reduced impacts, as the alternative would not facilitate any construction or excavation. Therefore, the impact significance level would be reduced, and no mitigation would be required.

Geology and Soils

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. Given that no dredging, site excavation, or other ground disturbing activities would occur, Alternative 1 would not pose a risk to paleontological resources or unique geologic features. Therefore, Alternative 1 would have no impact on geology and soils.

The proposed project's impacts related to geology and soils would be less than significant with mitigation (see Section 3.5, *Geology and Soils*). Alternative 1 would have a lesser impact level compared to the proposed project due to the lack of ground disturbing activities that would

otherwise occur with development of the proposed project. The impact significance level would be reduced, and no mitigation would be required.

Greenhouse Gas Emissions and Energy

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged, and vehicle trips across the Bay would continue at their current rate. Projected regional growth would continue without the development of zero-emissions transbay transportation opportunities, and vehicle miles travelled (VMT) and related non-renewable energy use would continue to increase. However, there would be no construction-related GHG emissions impacts, and there would be no energy demand for construction or operation of the electric ferry service. Therefore, Alternative 1 impacts related to GHG emissions and energy would be less than significant.

The proposed project's impacts related to GHG emissions and energy would be less than significant (see Section 3.6, *Greenhouse Gas Emissions and Energy*). Under Alternative 1, existing planned cumulative development would proceed and regional growth would continue without electric ferry service. As a result, there would be fewer GHG emissions reductions and related non-renewable energy use reductions associated with regional VMT reductions under Alternative 1 than would occur under the proposed project. Therefore, Alternative 1 impacts related to GHG emissions and energy would be greater than the proposed project.

Hazards and Hazardous Materials

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. Less construction would occur in what is characterized by the City of Berkeley as an Environmental Management Area, and no hazardous materials would be disturbed, transported, or disposed of, under Alternative 1. There would also be no hazards related to the storage or maintenance of lithium batteries that would be required to support operation of the ferry service. Additionally, while there would be fewer visitors to the Waterfront, an area with strained emergency evacuation capabilities, there would be no implementation of the additional emergency evacuation capabilities that the proposed project would provide. Therefore, Alternative 1 impacts to hazards and hazardous materials would be less than significant.

The proposed project's impacts related to hazards and hazardous materials would be less than significant (see Section 3.7, *Hazardous Materials*). Alternative 1 would have a similar impact level compared to the proposed project. While construction of Alternative 1 would not require excavation in areas that are potentially contaminated, Alternative 1 would also not remove potential contaminants from the project site (i.e., potential creosote in pier pilings). In addition, under the No Project Alternative, there would not be the added benefit of having emergency evacuation capabilities from the ferry vessels.

Hydrology and Water Quality

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. Ground disturbing construction activities that could potentially affect water quality from sedimentation or accidental

spills would not occur, and fewer impervious surfaces would be introduced. However, the pier and breakwater would continue to deteriorate and would not be reinforced to withstand flood hazards or sea level rise. Any changes related to hydrology, water quality, watersheds and drainage patterns, flood and inundation hazards, and groundwater resource management caused by existing planned development would follow the same adopted standards. Therefore, Alternative 1 impacts related to hydrology and water quality would be less than significant.

The proposed project's impacts related to hydrology and water quality would be less than significant with mitigation (see Section 3.8, *Hydrology and Water Quality*). The omission of the plaza, parking lot improvements, and Bay Trail Extension would introduce fewer impervious surfaces at the Waterfront. In addition, since no construction would occur, Alternative 1 would avoid potential water quality impacts associated with construction in the Bay. This alternative would not benefit from the enhanced breakwater and pier reinforcements that would improve flood-related safety risks at the Berkeley Waterfront. Nonetheless, because no construction would occur Alternative 1 would have a reduced, less than significant impact on hydrology and water quality as the proposed project.

Land Use and Planning

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. Applicable land use plans, policies, and regulations would continue to be implemented across the project area. Alternative 1 would not involve development that could potentially conflict with any applicable land use plans, policies, and regulations. However, some goals of the Berkeley General Plan, for example, would not be fulfilled. Therefore, Alternative 1 impacts to land use and planning would be less than significant.

The proposed project's impacts related to land use and planning would be significant and unavoidable due to the potential conflict from project construction with noise standards established in the Berkeley Municipal Code (see Section 3.9, *Land Use and Planning*). Alternative 1 would not involve construction or operation of the proposed project that could potentially conflict with applicable plans and policies, but it would not make progress toward goals of enhancing Waterfront access, recreation opportunities, or emissions reductions. While Alternative 1 would not have the same potential conflict with noise standards, Alternative 1 would also not advance the goals and policies identified in pertinent land use plans, including the City's General Plan, Marina Master Plan, and Plan Bay Area 2050. Since the inconsistency with noise standards would be temporary and limited to construction, but the potential inconsistency with goals and plans would be permanent, Alternative 1 would have greater land use impacts compared to the proposed project.

Noise

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged, and vehicle trips across the Bay would continue at their current rate. Temporary construction impacts would not occur, as pile driving and nighttime construction work would not be necessary, and there would be fewer sensitive receptors exposed to noise generated by construction or operation of the proposed project. Recreational users at the Waterfront would continue to experience ambient noise levels at

existing conditions, except for where there could be future development. Therefore, Alternative 1 impacts to noise would be less than significant.

The proposed project's impacts related to noise would be significant and unavoidable during construction (see Section 3.10, *Noise*). Even with implementation of mitigation (Mitigation Measure NOI-1), construction of the proposed project would exceed noise thresholds due to pile driving and nighttime construction work. Alternative 1 would have a reduced impact, in that such construction activities would not occur or expose sensitive receptors to noise beyond what is acceptable by applicable standards. Therefore, Alternative 1 would have a reduced noise impact significance level compared to the proposed project.

Recreation

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. Population would continue to grow as projected, and residents would not have the additional recreational opportunities at the Berkeley Waterfront from the proposed project. Nonetheless, because Alternative 1 would not result in the construction of recreational facilities that could affect the environment, this alternative would have no impact related to construction of recreational facilities.

The proposed project's impacts related to recreation would be significant and unavoidable due to construction-related noise (see Section 3.11, *Recreation*). Given that Alternative 1 would not include construction or operation of the proposed project, impacts would be reduced compared to the proposed project.

Transportation

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged, and vehicle trips across the Bay would continue at their current rate. VMT would increase over time with projected regional growth, University Avenue would not undergo any safety improvements, and emergency evacuation capabilities would remain constrained. Alternative 1 transportation impacts would be less than significant.

The proposed project's impact related to transportation would be less than significant (see Section 3.12, *Transportation*). Alternative 1 would have a greater impact related to transportation compared to the proposed project due to the lack of improvements on University Avenue that would improve circulation and pedestrian safety, the lack of zero-emission transportation infrastructure that would decrease VMT, and the lack of emergency evacuation capability improvements that the proposed project would provide.

Tribal Cultural Resources

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East Parking lot would remain unchanged. No construction-related ground disturbance would occur, and therefore, Alternative 1 would not pose any potential risk of altering tribal cultural resources. Therefore, Alternative 1 would have no impact related to tribal cultural resources.

The proposed project's impacts related to tribal cultural resources would be less than significant with mitigation (see Section 3.13, *Tribal Cultural Resources*). Alternative 1 would result in reduced impacts, as the alternative would not facilitate any construction or excavation, and there would be no construction landside or waterside. Therefore, the impact significance level would be reduced, and no mitigation would be required.

Utilities and Service Systems

Under Alternative 1, the site would remain in its current condition, with no ferry infrastructure, public plaza, recreation, or transportation improvements implemented. Existing facilities such as the deteriorating pier and Seawall Drive East parking lot would remain unchanged. There would be no increased demand for water, wastewater, solid waste, telecommunication, or electricity services. Therefore, Alternative 1 would have no impact related to utilities and service systems.

The proposed project's impacts related to utilities and service systems would be less than significant with mitigation (see Section 3.14, *Utilities and Service Systems*). Alternative 1 would have a reduced impact on utilities and service systems compared to the proposed project. Under Alternative 1, there would be no increased demand compared to existing conditions, as there would be no construction or operation requiring water, wastewater, solid waste, telecommunication, or electricity services beyond what is already available at the Berkeley Waterfront. Therefore, Alternative 1 would have a reduced utilities and service systems impact significance level compared to the proposed project.

5.5.3 Conclusion

In summary, because Alternative 1 (the No Project Alternative) would not require construction, it would avoid the environmental impacts associated with biological resources, cultural resources, geology and soils, recreation, tribal cultural resources, and utilities and service systems. In addition, Alternative 1 would reduce impacts related to hydrology, water quality and noise. It would also result in greater impacts to aesthetics, as it would enable the Waterfront facilities to continue deteriorating without aesthetic improvements, however, impacts to aesthetics would remain at a similar significance level. Impacts on air quality, GHG emissions, land use and planning, and transportation are also expected to be greater than the proposed project, because Alternative 1 would not provide the same reductions in VMT, criteria air pollutants, and GHG emissions, compared with the proposed project.

This Alternative would not meet the basic project objectives. This Alternative would not enhance public access and recreational opportunities at the Berkeley Waterfront and would not provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco.

5.6 Alternative 2: Shortened Breakwater Alternative

5.6.1 Description

The Shortened Breakwater Alternative (Alternative 2) would implement the proposed project as planned, with one difference. The breakwater under Alternative 2 would be less than 400 feet, which is the length identified for the proposed project. The exact length of the breakwater under this Alternative would depend on future engineering to identify the shortened length that would

still maintain the necessary safe harbor conditions for ferry vessels to dock next to the proposed pier.

5.6.2 Impact Analysis

Aesthetics

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Development under Alternative 2 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the breakwater. Given that construction and operation of the project would be similar to the proposed project, Alternative 2 would not have a substantial impact on a scenic vista, damage scenic resources, degrade the existing visual character, or introduce new sources of light and glare, as the alternative would follow any policies that would prevent further impacts. Like the proposed project, Alternative 2 would require nighttime construction and would, therefore, require the implementation of Mitigation Measure AES-1. Alternative 2 impacts related to aesthetics would be less than significant with mitigation.

The proposed project's impacts related to aesthetics would be less than significant with mitigation (see Section 3.1, *Aesthetics*). Alternative 2 would have a similar level of aesthetics impact compared to the proposed project, because the change in size of the breakwater would not substantially change the aesthetics of the site as a whole.

Air Quality

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. As a result, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. Nonetheless, under this alternative, similar construction-related air quality emissions mitigation would be implemented. The lessened construction duration and use of heavy-duty equipment would result in a reduced construction impact to air quality, while operational impacts would remain the same.

The proposed project's impacts related to air quality would be less than significant with mitigation (see Section 3.2, *Air Quality*). Alternative 2 would have a similar level of impact compared to the proposed project that requires mitigation to prevent further construction-related air quality impacts (Mitigation Measure AQ-1). Alternative 2 would have a slightly reduced impact on air quality due to the reduced construction intensity.

Biological Resources

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Alternative 2 would result in an overall reduction in the amount of new fill that would be introduced into the San Francisco Bay, as well as a reduced number of piles in the Bay. Alternative 2 would be similar to the proposed project, and development would be required to implement the same federal, State, and local regulations to not impact sensitive or special status biological resources in the area. Alternative 2 would have similar impacts to terrestrial wildlife as the proposed project, as landside construction and operation activities would remain the same. Construction of the breakwater, although shortened, could result in some potential direct or indirect impacts to special-status fish and marine species due to pile driving and dredging. Therefore, Alternative 2 biological resources impacts would be less than significant with mitigation.

The proposed project's impacts to biological resources would be less than significant with mitigation (see Section 3.3, *Biological Resources*). Alternative 2 would have a similar impact level on biological resources and requirement to implement mitigation (Mitigation Measures BIO-1(a) through BIO-1(e), BIO-2, and BIO-3) compared to the proposed project. However, impacts would be reduced slightly by the shortened duration and intensity of construction.

Cultural Resources

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Construction under Alternative 2 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the breakwater. However, this alternative would still require mitigation related to potential discovery of archaeological resources during construction. Therefore, Alternative 2 cultural resources impacts would be less than significant with mitigation.

The proposed project's impacts related to Cultural Resources would be less than significant with mitigation (See Section 3.4, *Cultural Resources*). Because Alternative 2 would require the same amount of dredging as the proposed project, and because dredging and not pile driving is the activity that could result in impacts on cultural resources for water-side activities, this alternative would have similar impact as the proposed project on cultural resources.

Geology and Soils

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Development under Alternative 2 would be similar to the proposed project but would require slightly less ground disturbance during the construction phase due to the shortened length of the breakwater. Development under this alternative would not occur in an Alquist Priolo Earthquake Fault Zone, directly or indirectly cause adverse effects related to seismic ground shaking or liquefaction, substantial soil erosion or loss of topsoil, or create risks related to expansive soils. Alternative 2 would still require mitigation related to impacts to unique paleontological or geologic resources. Therefore, Alternative 2 impacts to geologic and soil resources would be less than significant with mitigation.

The proposed project's impacts related to geological and soil resources would be less than significant with mitigation (see Section 3.5, *Geology and Soils*). Because Alternative 2 would require the same amount of dredging as the proposed project, the potential to impact paleontological resources would be the same and both the proposed project and this Alternative would require implementation of Mitigation Measure GEO-1 and GEO-2.

Greenhouse Gas Emissions and Energy

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. As a result, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. The reduced construction schedule and equipment usage would result in slightly reduced construction-related GHG emissions. Therefore, Alternative 2 impacts related to GHG emissions and energy would be less than significant.

The proposed project's impacts related to GHG emissions and energy would be less than significant (see Section 3.6, *Greenhouse Gas Emissions and Energy*). Alternative 2 would result in less construction-related GHG emissions compared to the proposed project, given the shortened

breakwater. However Alternative 2 would have a similar overall impact level compared to the proposed project, because Alternative 2 operational GHG emissions and energy impacts associated with regional VMT reductions would be the same as compared to the proposed project.

Hazards and Hazardous Materials

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. As a result, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. The reduced construction schedule would minimize the amount of hazardous materials used, transported, and disposed of during construction. Operation of Alternative 2 would be the same as the proposed project. Therefore, Alternative 2 impacts related to hazards and hazardous materials would be less than significant.

The proposed project's impacts related to hazards would be less than significant (see Section 3.7, *Hazards and Hazardous Materials*). Alternative 2 would have a similar impact level compared to the proposed project, because operational impacts would remain the same.

Hydrology and Water Quality

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. As a result, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. This alternative would not result in additional impacts to hydrology, water quality, watersheds and drainage patterns, flood and inundation hazards, or groundwater resource management. Alternative 2 would adhere to applicable hydrology and water quality standards, and would remain subject to the same mitigation measure as the proposed project (Mitigation Measure HYD-1). Therefore, Alternative 2 impacts related to hydrology and water quality would be less than significant with mitigation.

The proposed project's impacts related to hydrology and water quality would be less than significant with mitigation (see Section 3.8, *Hydrology and Water Quality*). Alternative 2 would reduce the duration and intensity of construction, however it would be subject to the same mitigation measures and compliance with the existing water quality standards. Overall, due to the reduced schedule, construction-related water quality impacts would be less than the proposed project.

Land Use and Planning

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Operation of Alternative 2 would still involve operation of an electric ferry service at the Berkeley Waterfront, which would comply with relevant land use and planning policies. Nonetheless, like the proposed project, this Alternative would be inconsistent with policies related to construction noise and because of this, impacts would be significant and unavoidable. Therefore, Alternative 2 impacts related to land use and planning would be significant and unavoidable.

The proposed project's impacts related to land use and planning would be significant and unavoidable due to the potential conflict from project construction with noise standards established in the Berkeley Municipal Code (see Section 3.9, *Land Use and Planning*). Alternative 2 would have a similar impact, as operation of the alternative would be the same as the proposed project, and would comply with the applicable land use and planning policies.

Noise

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Alternative 2 would result in an overall reduction in the number of piles in the Bay, which would result in less pile driving compared to the proposed project. However, nighttime construction impacts to noise would remain, as pile driving would still be required. Therefore, Alternative 2 impacts related to noise would be significant and unavoidable.

The proposed project's impacts related to noise would be significant and unavoidable during construction (see Section 3.10, *Noise*). Alternative 2 would have a reduced impact compared to the proposed project due to the reduction in construction noise associated with the fewer number of piles in the Bay, but not to the extent of reducing the impact level or not requiring mitigation (Mitigation Measure NOI-1).

Recreation

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Alternative 2 would result in a slight reduction in significant impacts that would result from the construction of the proposed project, which would include recreational facilities, as the shortened breakwater would reduce the duration and intensity of overall construction. However, construction of the breakwater would not alter the impacts to recreational resources. Therefore, Alternative 2 impacts related to recreation would be significant and unavoidable (due to construction noise impacts related to the construction of a recreational resource).

The proposed project's impacts related to recreation would be significant and unavoidable due to construction-related noise (see Section 3.11, *Recreation*). Although Alternative 2 would have slightly lesser impacts from its shortened construction schedule and reduction in construction equipment usage, Alternative 2 would have a similar impact level compared to the proposed project.

Transportation

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Development under Alternative 2 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the breakwater. Alternative 2 would still include improvements to circulation and pedestrian safety on University Avenue and would provide a zero-emission Transbay transportation option to reduce single-occupancy vehicle usage and VMT. Therefore, Alternative 2 impacts to transportation would be less than significant.

The proposed project's impacts related to transportation would be less than significant (see Section 3.12, *Transportation*). Alternative 2 would have a similar impact compared to the proposed project because trips to the project site would be the same between the proposed project and Alternative 2.

Tribal Cultural Resources

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. Development under Alternative 2 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the breakwater. However, this alternative would still require mitigation related to the disturbance of tribal cultural resources during construction. Therefore, Alternative 2 tribal cultural resources impacts would be less than significant with mitigation.

The proposed project's impacts related to tribal cultural resources would be less than significant with mitigation (see Section 3.13, *Tribal Cultural Resources*). Because Alternative 2 would require the same amount of dredging as the proposed project, and because dredging and not pile driving is the activity that could result in impacts on tribal cultural resources for water-side activities, this alternative would have similar impact as the proposed project on tribal cultural resources.

Utilities and Service Systems

Under Alternative 2, the size of the breakwater would be reduced to less than 400 feet, depending on the results of future engineering. However, Alternative 2 would require the installation of the same utilities as the proposed project and would result in the same demand on utilities as the proposed project. Because Alternative 2 would require implementation of the same mitigation as the proposed project, to reduce impacts related to construction of utilities, impacts would be less than significant with mitigation.

The proposed project's impacts related to utilities and service systems would be less than significant with mitigation (see Section 3.14, *Utilities and Service Systems*). Because Alternative 2 would require the installation of the same utilities as the proposed project and would result in the same demand on utilities as the proposed project, utilities and service systems impacts would be similar to the proposed project.

5.6.3 Conclusion

In summary, because Alternative 2 (Shortened Breakwater Alternative) would result in less construction due to a shortened breakwater, Alternative 2 would have slightly reduced construction-related impacts to air quality, biological resources, GHG emissions, hydrology and water quality, and noise. While these impacts would be slightly reduced, the overall significant conclusion would remain the same, the same mitigation measures would apply, and impacts to noise, recreation, and land use and planning would remain significant and unavoidable.

The primary purpose of the breakwater is to provide a safe harbor for the ferry vessels that would dock next to the pier. The shortened breakwater under this Alternative would meet the primary purpose of the breakwater. This Alternative would provide ferry service, as well as enhanced public access and recreational opportunities and would, therefore, meet most of the basic project objectives. However, because the shortened breakwater under this Alternative would provide slightly less public access and recreational opportunities, it would meet the project objectives to a slightly lesser extent than the proposed project.

5.7 Alternative 3: Shortened Pier Alternative

5.7.1 Description

The Shortened Pier Alternative (Alternative 3) would implement the proposed project as planned, with one difference. The pier under Alternative 3 would be less than 1,080 feet, which is the length identified for the proposed project. Under this Alternative, the pier would not extend beyond the breakwater and would instead terminate where the pier and the breakwater intersect. Conceptually, under this Alternative, the pier would be approximately 675 feet in length.

5.7.2 Impact Analysis

Aesthetics

Construction under Alternative 3 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the pier. Given that construction and operation of the project would be similar to the proposed project, Alternative 3 would not have a substantial impact on a scenic vista, damage scenic resources, degrade the existing visual character, or introduce new sources of light and glare, as the alternative would follow any policies that would prevent further impacts. Like the proposed project, Alternative 3 would require nighttime construction and would, therefore, require the implementation of Mitigation Measure AES-1. Alternative 3 impacts related to aesthetics would be less than significant with mitigation.

The proposed project's impacts related to aesthetics would be less than significant with mitigation (see Section 3.1, *Aesthetics*). Alternative 3 would have a similar level of aesthetics impact compared to the proposed project because under both alternatives, portions of the currently closed pier would remain intact.

Air Quality

The overall construction schedule under Alternative 3 would be reduced and there would be overall less use of construction equipment, compared to the proposed project. Nonetheless, under this alternative, similar construction-related air quality emissions mitigation would be implemented. The lessened construction duration and use of heavy-duty equipment would result in a reduced construction impact to air quality, while operational impacts would remain the same.

The proposed project's impacts related to air quality would be less than significant with mitigation (see Section 3.2, *Air Quality*). Alternative 3 would have a similar level of impact compared to the proposed project that requires mitigation to prevent further construction-related air quality impacts (Mitigation Measure AQ-1). Alternative 3 would have a slightly reduced impact on air quality due to the reduced period and intensity of construction activities.

Biological Resources

Alternative 3 would result in an overall reduction in the amount of new fill that would be introduced into the San Francisco Bay, as well as a reduced number of piles in the Bay. Alternative 3 would be similar to the proposed project, and development would be required to implement the same federal, State, and local regulations to not impact sensitive or special status biological resources in the area. Alternative 3 would have similar impacts to terrestrial wildlife as the proposed project, as landside construction and operation activities would remain the same. Construction of the pier, although shortened, could result in some potential direct or indirect impacts to special-status fish and marine species due to pile driving and dredging. However, these impacts would be slightly reduced from that of the proposed project. Therefore, Alternative 3 biological resources impacts would be less than significant with mitigation.

The proposed project's impacts on biological resources would be less than significant with mitigation (see Section 3.3, *Biological Resources*). Alternative 3 would have a similar impact level on biological resources and requirement to implement mitigation (MMs BIO-1(a) through BIO-1(e), BIO-2, and BIO-3) compared to the proposed project. However, impacts would be reduced slightly by the shortened duration and intensity of construction.

Cultural Resources

Construction under Alternative 3 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the pier. However, this alternative would still require mitigation related to potential discovery of archaeological resources during construction. Therefore, Alternative 3 cultural resources impacts would be less than significant with mitigation.

The proposed project's impacts related to cultural resources would be less than significant with mitigation (See Section 3.4, *Cultural Resources*). Because Alternative 3 would require the same amount of dredging as the proposed project, and because dredging and not pile driving is the activity that could result in impacts on cultural resources for water-side activities, this alternative would have similar impact as the proposed project on cultural resources.

Geology and Soils

Construction under Alternative 3 would be similar to the proposed project but would require slightly less ground disturbance during the construction phase due to the shortened length of the pier. Development under this alternative would not occur in an Alquist Priolo Earthquake Fault Zone, directly or indirectly cause adverse effects related to seismic ground shaking or liquefaction, substantial soil erosion or loss of topsoil, or create risks related to expansive soils. Alternative 3 would still require mitigation related to impacts to unique paleontological or geologic resources. Therefore, Alternative 3 impacts to geologic and soil resources would be less than significant with mitigation.

The proposed project's impacts related to geological and soil resources would be less than significant with mitigation (see Section 3.5, *Geology and Soils*). Because Alternative 3 would require the same amount of dredging as the proposed project, the potential to impact paleontological resources would be the same and both the proposed project and this Alternative would require implementation of Mitigation Measure GEO-1 and GEO-2.

Greenhouse Gas Emissions and Energy

Under Alternative 3, the overall construction schedule would be reduced, and there would be overall less use of construction equipment compared to the proposed project. The reduced construction schedule and equipment usage would result in a small reduction of construction-related GHG emissions. Therefore, Alternative 3 impacts related to GHG emissions and energy would be less than significant.

The proposed project's impacts related to GHG emissions and energy would be less than significant (see Section 3.6, *Greenhouse Gas Emissions and Energy*). Alternative 3 would result in less construction-related emissions compared to the proposed project, given the shortened pier. However Alternative 3 would have a similar overall impact level compared to the proposed project, because Alternative 3 operational GHG emissions and energy impacts associated with regional VMT reductions would be the same as compared to the proposed project. Hazards and Hazardous Materials

Under Alternative 3, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. The reduced construction schedule would minimize the amount of hazardous materials used, transported, and disposed of during construction. Operation of Alternative 3 would be the same as the proposed project.

Therefore, Alternative 3 impacts related to hazards and hazardous materials would be less than significant.

The proposed project's impacts related to hazards would be less than significant (see Section 3.7, *Hazards and Hazardous Materials*). Alternative 3 would have a similar impact level compared to the proposed project because operational impacts would remain the same.

Hydrology and Water Quality

Under Alternative 3, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. This alternative would not result in additional impacts to hydrology, water quality, watersheds and drainage patterns, flood and inundation hazards, or groundwater resource management. Alternative 3 would adhere to applicable hydrology and water quality standards, and would remain subject to the same mitigation measure as the proposed project (Mitigation Measure HYD-1). Therefore, Alternative 3 impacts related to hydrology and water quality would be less than significant with mitigation.

The proposed project's impacts related to hydrology and water quality would be less than significant with mitigation (see Section 3.8, *Hydrology and Water Quality*). Alternative 3 would reduce the duration and intensity of construction, however it would be subject to the same mitigation measures and compliance with the existing water quality standards. Overall, due to the reduced schedule, construction-related water quality impacts would be less than the proposed project.

Land Use and Planning

Under Alternative 3, the overall construction schedule would be reduced and there would be overall less use of construction equipment, compared to the proposed project. Operation of Alternative 3 would still involve operation of an electric ferry service at the Berkeley Waterfront, which would comply with relevant land use and planning policies. Nonetheless, like the proposed project, this Alternative would be inconsistent with policies related to construction noise and because of this, impacts would be significant and unavoidable. Therefore, Alternative 3 impacts related to land use and planning would be significant and unavoidable.

The proposed project's impacts related to land use and planning would be significant and unavoidable due to the potential conflict from project construction with noise standards established in the Berkeley Municipal Code (see Section 3.9, *Land Use and Planning*). Alternative 3 would have a similar impact, as operation of the alternative would be the same as the proposed project, and would comply with the applicable land use and planning policies.

Noise

Alternative 3 would result in an overall reduction in the number of piles in the Bay, which would result in less pile driving compared to the proposed project. However, nighttime construction impacts to noise would remain, as pile driving would still be required. Therefore, Alternative 3 impacts related to noise would be significant and unavoidable.

The proposed project's impacts related to noise would be significant and unavoidable during construction (see Section 3.10, *Noise*). Alternative 3 would have a reduced impact compared to the proposed project due to the reduction in construction noise associated with the fewer number of piles in the Bay, but not to the extent of reducing the impact level or not requiring mitigation (Mitigation Measure NOI-1).

Recreation

Alternative 3 would result in a slight reduction in significant impacts that would result from the construction of the proposed project, which would include recreational facilities, as the shortened pier would reduce the duration and intensity of overall construction. However, construction of the breakwater would not alter the impacts to recreational resources. Therefore, Alternative 3 impacts related to recreation would be significant and unavoidable (due to construction noise impacts related to the construction of a recreational resource).

The proposed project's impacts related to recreation would be significant and unavoidable due to construction-related noise (see Section 3.11, *Recreation*). Although Alternative 3 would have slightly lesser impacts from its shortened construction schedule and reduction in construction equipment usage, Alternative 3 would have a similar impact level compared to the proposed project.

Transportation

Construction under Alternative 3 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the pier. Alternative 3 would still include improvements to circulation and pedestrian safety on University Avenue and would provide a zero-emission Transbay transportation option to reduce single-occupancy vehicle usage and VMT. Therefore, Alternative 3 impacts to transportation would be less than significant.

The proposed project's impacts related to transportation would be less than significant (see Section 3.12, *Transportation*). Alternative 3 would have a similar impact compared to the proposed project because trips to the project site would be the same between the proposed project and Alternative 3.

Tribal Cultural Resources

Construction under Alternative 3 would be similar to the proposed project but would require less disturbance during the construction phase due to the shortened length of the pier. However, this alternative would still require mitigation related to the disturbance of tribal cultural resources during construction. Therefore, Alternative 3 tribal cultural resources impacts would be less than significant with mitigation.

The proposed project's impacts related to tribal cultural resources would be less than significant with mitigation (see Section 3.13, *Tribal Cultural Resources*). Because Alternative 3 would require the same amount of dredging as the proposed project, and because dredging and not pile driving is the activity that could result in impacts on tribal cultural resources for water-side activities, this alternative would have similar impact as the proposed project on tribal cultural resources.

Utilities and Service Systems

Alternative 3 would reduce the duration of construction and the intensity of construction equipment usage. However, Alternative 3 would require the installation of the same utilities as the proposed project and would result in the same demand with regard to utilities as the proposed project. Because Alternative 3 would require implementation of the same mitigation as the proposed project, to reduce impacts related to construction of utilities, impacts would be less than significant with mitigation.

The proposed project's impacts related to utilities and service systems would be less than significant with mitigation (see Section 3.14, *Utilities and Service Systems*). Because Alternative 3 would require

the installation of the same utilities as the proposed project and would result in the same demand with regard to utilities as the proposed project, utilities and service systems impacts would be similar to the proposed project.

5.7.3 Conclusion

In summary, because Alternative 3 (Shortened Pier Alternative) would result in less construction due to a shortened pier, Alternative 3 would have slightly reduced construction-related impacts to air quality, biological resources, GHG emissions, hydrology and water quality, and noise. While these impacts would be slightly reduced, the overall significant conclusion would remain the same, the same mitigation measures would apply, and impacts to noise, recreation, and land use and planning would remain significant and unavoidable.

The primary purpose of the pier beyond the breakwater is to provide enhanced public access and recreational opportunities. Unlike the breakwater that has a dual purpose of providing a safe harbor for ferry vessels and providing public access/recreational opportunities; or the portion of the pier from the public plaza to the breakwater, which has the dual purpose of providing access to ferry vessels and public access/recreational opportunities; the portion of the pier beyond the breakwater's sole purpose is provide public access/recreational opportunities.

While this Alternative would meet most of the basic project objectives by providing ferry service and some enhanced public access and recreational opportunities, it would meet the project objectives to a lesser extent than the proposed project, since it would reduce the amount of public access/recreational opportunities by approximately 405 feet.

5.8 Alternative 4: Reduced Landside Facilities Alternative

5.8.1 Description

The Reduced Landside Facilities Alternative (Alternative 4) would implement the proposed project as planned, with a few key differences. Under Alternative 4, the facilities located on the water, including the pier, breakwater, and associated infrastructure for the ferry vessels would be implemented in the same way as the proposed project; however, on the land side, the number of facilities would be reduced. Specifically, under this alternative, utilities would still be installed on the land side to connect to the proposed new infrastructure on the proposed new pier; however, the following facilities would not be implemented: cycle track; renovations to University Avenue and Seawall Drive; bus facilities; public plaza; Bay Trail Extension; and renovated parking lot off Seawall Drive, including no installation of EV charging for parking stalls. Some landside construction is required for Alternative 4, in order to complete the Pier, due to the elevation of the Pier (approximately 6 feet above existing plaza elevation) and the need for emergency vehicle access onto the Pier. At a minimum this would include the Pier Abutment itself (including deep soil mixing to create a seismically stable landing for the abutment) and retaining wall and fill in the area to create vehicle and accessible connections between the existing sidewalk/Seawall Drive and the new pier.

5.8.2 Impact Analysis

Aesthetics

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier and infrastructure (i.e., pier abutment and retaining wall) needed for the pier would still be installed. The omission of landside features would result in fewer visual changes to the existing waterfront setting; however, the omitted improvements-the cycle track, public plaza, Bay Trail Extension, and bus facilities are all surface level improvements that are not noticeable in themselves. Construction activities would still be needed for utilities and pier connections, although the area of disturbance would be smaller for Alternative 4. The type of construction equipment that would be used for Alternative 4 would be similar to what would be used for the proposed project. Like the proposed project, Alternative 4 would require nighttime construction and would, therefore, require the implementation of Mitigation Measure AES-1. Alternative 4 impacts would be less than significant with mitigation.

The proposed project's impacts related to aesthetics would be less than significant with mitigation (see Section 3.1, *Aesthetics*). Alternative 4 would have a similar level of aesthetics impact during construction of the pier and operation; however, its reduced landside development would substantially lessen changes to visual character of the waterfront and shorten the duration and extent of temporary construction-related visual impacts, however not to the extent of changing the significance level.

Air Quality

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. Similar construction-related air quality emissions mitigation would be implemented. The reduction in landside development would shorten the overall construction schedule and decrease the amount of heavy-duty equipment used compared to the proposed project. Operational emissions would remain similar, as waterside infrastructure would be unchanged. While the lack of land side development may result in a fewer number of visitors to the Berkeley Waterfront, there would also be fewer opportunities for active transportation. Therefore, Alternative 4 impacts on air quality would be less than significant with mitigation.

The proposed project's impacts related to air quality would be less than significant with mitigation (see Section 3.2, *Air Quality*). Alternative 4 would have reduced construction-related impacts. However, impacts from operation of Alternative 4 may be greater than the proposed project because Alternative 4 would not install EV chargers and because the lack of facilities under Alternative 4 might attract fewer people to use the ferry service, thereby potentially resulting in more VMT by single-occupancy vehicles driving over the Bay Bridge, and therefore more air quality emissions, compared to the proposed project.

Biological Resources

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay

Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. The reduction of landside features would decrease disturbance to terrestrial habitats and wildlife compared to the proposed project. All federal, State, and local regulations and mitigation measures would still apply to avoid impacts on marine biological resources. Therefore, Alternative 4 impacts to biological resources would be less than significant with mitigation.

The proposed project's impacts related to biological resources would be less than significant with mitigation (see Section 3.3, *Biological Resources*). Alternative 4 would have a similar level of impact on aquatic resources and require the same mitigation measures as the proposed project (MMs BIO-1(a) through BIO-1(e), BIO-2, and BIO-3) but impacts to terrestrial biological resources would be reduced due to the smaller landside footprint.

Cultural Resources

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. The reduced landside construction would reduce construction activities and overall landside ground disturbance, which reduces the likelihood of discovering archaeological resources. However, mitigation measures related to inadvertent discovery of cultural resources would still be required during construction. Therefore, Alternative 4 impacts on cultural resources would be less than significant with mitigation.

The proposed project's impacts related to cultural resources would be less than significant with mitigation (see Section 3.4, *Cultural Resources*). Alternative 4 would have similar impacts on cultural resources and require the same mitigation (Mitigation Measure CR-1) as the proposed project, but impacts would be reduced due to the smaller landside footprint.

Geology and Soils

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. Landside construction would be reduced, which would decrease ground disturbance and associated risks with geologic and soil resources. Mitigation measures for paleontological resources would still be required during construction. Therefore, Alternative 4 impacts on geology and soils would be less than significant with mitigation.

The proposed project's impacts related to geological and soil resources would be less than significant with mitigation (see Section 3.5, *Geology and Soils*). Alternative 4 would have a similar level of impact on geological and soil resources and would require the same mitigation measures (Mitigation Measures GEO-1 and GEO-2), but impacts would be reduced due to the smaller landside footprint.

Greenhouse Gas Emissions and Energy

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. This reduction would shorten the overall construction schedule and decrease the amount of heavy-duty equipment used, resulting in a reduction in construction-related

GHG emissions and energy consumption compared to the proposed project. Operational emissions would remain similar because ferry service and associated waterside infrastructure would remain unchanged; however, there may be a small increase due to the lack of active transportation opportunities. Alternative 4 impacts on GHG emissions and energy would be less than significant.

The proposed project's impacts related to GHG emissions and energy would be less than significant (see Section 3.6, *Greenhouse Gas Emissions and Energy*). Alternative 4 would result in less construction-related GHG emissions impacts compared to the proposed project, given the reduced landside facilities. However, impacts from operation of Alternative 4 may be greater than the proposed project, because Alternative 4 would not install EV chargers and , with less landside facilities, might attract fewer people to use the ferry service, thereby potentially resulting in less reduction of regional VMT and, in turn, more GHG emissions and non-renewable energy use compared to the proposed project.

Hazards and Hazardous Materials

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. This reduction would shorten the overall construction schedule and decrease the amount of hazardous materials used, transported, and disposed of during landside activities. Operational conditions would remain the same, as ferry service and associated infrastructure under Alternative 4 would be the same as the proposed project. Therefore, Alternative 4 impacts to hazards and hazardous materials would be less than significant.

The proposed project's impacts related to hazards and hazardous materials would be less than significant (see Section 3.7, *Hazards and Hazardous Materials*). Alternative 4 would have a similar level of operational impact but reduced construction-related hazards due to the omission of landside development.

Hydrology and Water Quality

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. The reduction in landside construction would decrease the amount of ground disturbance and new impervious surface area on land, slightly reducing potential effects on drainage patterns and stormwater runoff compared to the proposed project. Alternative 4 would adhere to applicable hydrology and water quality standards and remain subject to the same mitigation measures related to construction in the water. Therefore, Alternative 4 impacts to hydrology and water quality would be less than significant with mitigation.

The proposed project's impacts related to hydrology and water quality would be less than significant with mitigation (see Section 3.8, *Hydrology and Water Quality*). Alternative 4 would have similar impacts during construction and operation but slightly reduced landside effects due to the smaller footprint.

Land Use and Planning

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay

Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. The reduction in landside development would decrease the overall footprint of development and would not introduce new inconsistencies with applicable land use plans or policies. Nonetheless, like the proposed project, this Alternative would be inconsistent with policies related to construction noise and because of this, impacts would be significant and unavoidable. Therefore, Alternative 4 impacts to land use and planning would be significant and unavoidable.

The proposed project's impacts related to land use and planning would be significant and unavoidable due to the potential conflict from project construction with noise standards established in the Berkeley Municipal Code (see Section 3.9, *Land Use and Planning*). Alternative 4 would have a greater level of impact compared to the proposed project. Bicycle and pedestrian features are identified in local plans as a means of providing different opportunities for people to move in the City of Berkeley. Without these features, Alternative 4 would create greater inconsistencies with local plans.

Noise

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. Landside construction would be reduced, overall reducing construction noise on land. However, nighttime pile driving and marine construction activities would still occur. Therefore, Alternative 4 impacts to noise would remain significant and unavoidable.

The proposed project's impacts related to noise would be significant and unavoidable during construction (see Section 3.10, *Noise*). Alternative 4 would have a slightly reduced impact compared to the proposed project due to the reduced landside construction noise, but not to the extent of reducing the impact level or eliminating the need for mitigation (Mitigation Measure NOI-1).

Recreation

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. Alternative 4 would decrease construction-related disturbance on land but would also limit the enhancement of recreational opportunities. Nonetheless, under this Alternative, construction of the pier and breakwater would remain. As with the proposed project, these would be considered recreational facilities and the impacts associated with the construction of these facilities under Alternative 4 would be significant and unavoidable (due to construction noise)

The proposed project's impacts related to recreation would be significant and unavoidable due to construction-related noise (see Section 3.11, *Recreation*). Alternative 4 would have reduced construction-related impacts on recreation due to the construction of less recreational facilities.

Transportation

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. Alternative 4 would not include improvements to circulation and pedestrian

safety on University Avenue but would provide a zero-emission Transbay transportation option to reduce single-occupancy vehicle usage and VMT. Therefore, Alternative 4 impacts to transportation would be less than significant, similar to the proposed project.

The proposed project's impacts related to transportation would be less than significant (see Section 3.12, *Transportation*). Alternative 4 would have a greater impact compared to the proposed project, because this alternative would not include circulation or pedestrian improvements to University Avenue or encourage active transportation usage. In addition, the lack of facilities under Alternative 4 might attract less people to use the ferry service, thereby potentially resulting in more VMT compared to the proposed project.

Tribal Cultural Resources

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. The omission of landside development would reduce construction activities and overall landside ground disturbance, which reduces the likelihood of discovering tribal cultural resources compared to the proposed project. However, mitigation measures related to inadvertent discovery of tribal cultural resources would still be required during construction. Therefore, Alternative 4 impacts to tribal cultural resources would be less than significant with mitigation.

The proposed project's impacts related to tribal cultural resources would be less than significant with mitigation (see Section 3.13, *Tribal Cultural Resources*). Alternative 4 would have similar impacts on tribal cultural resources and require the same mitigation (Mitigation Measures TCR-1 through TCR-5) as the proposed project, but impacts would be reduced due to the smaller landside footprint.

Utilities and Service Systems

Under Alternative 4, all waterside components of the proposed project would remain, and landside improvements would be scaled back. Landside elements such as the cycle track, public plaza, Bay Trail Extension, and bus facilities would be omitted, but essential utilities connecting to the pier would still be installed. Overall, utility connections would remain similar to the proposed project. For example, water connections would be needed for both the pier and the restroom; sewer connections would be needed for the restroom; telecommunication connections would be needed for the ferry infrastructure; and electricity connections would be needed to charge ferry vessels but might be reduced given there would no longer be a need for EV chargers. Alternative 4 would require implementation of the same mitigation as the proposed project, to reduce impacts related to construction of utilities, and impacts would be less than significant with mitigation.

The proposed project's impacts related to utilities and service systems would be less than significant with mitigation (see Section 3.14, *Utilities and Service Systems*). Alternative 4 would have similar operational utilities and service systems impacts, as there would still be a substantial energy demand to support operation of the ferry vessels. However the overall demand would decrease compared to the proposed project, as there would be fewer landside amenities requiring water, wastewater, electricity, and solid waste services under Alternative 4.

5.8.3 Conclusion

In summary, because Alternative 4 (Reduced Landside Facilities Alternative) would result in less construction and excavation due to the implementation of less landside facilities, Alternative 4 would have slightly reduced construction-related impacts on aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, recreation, tribal cultural resources, and utilities and service systems. While these impacts would be slightly reduced, the overall significant conclusion would remain the same, the same mitigation measures would apply, and impacts on noise, recreation, and land use and planning would remain significant and unavoidable. Furthermore, under this alternative there could be slightly greater impacts on air quality, GHG emissions, land use and planning, and transportation, due to the potential for the site to be used by less visitors compared to the proposed project, due to its reduced attractiveness with less amenities.

Alternative 4 would achieve most of the basic project objectives, however to a much lesser extent than the proposed project. While the proposed project would provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco and while the proposed project would enhance public access and recreational opportunities at the Berkeley Waterfront, the public access and recreational opportunities would be greatly reduced under this alternative compared to the proposed project. Under this Alternative, people using the Berkeley Waterfront would not be able to use a cycle track to access the project site; would not be able to congregate in a public plaza; would not be able to use the Bay Trail Extension off Seawall Drive; and overall, would not be able to enjoy the Bay as much as under the proposed project.

5.9 Alternatives Considered but Rejected

The following summarizes alternatives considered, but ultimately rejected for inclusion in the analysis, because they would not meet most of the project objectives, would not substantially reduce impacts compared to the proposed project, or were determined to be infeasible.

- The City considered alternative locations; however, the City ultimately rejected these alternative locations. Below is a summary of the various alternative locations that were considered but rejected:
  - **Berkeley Marina Basin.** Under this potential alternative, ferry vessels would dock within the Berkeley Marina Basin. This alternative location is one that was studied previously as part of a Draft EIS/EIR from 2008.[1] As part of this analysis, it was found that implementation of a ferry terminal in the Marina would require removal of docks within the Marina. This alternative would not meet the basic project objectives to: (1) enhance public access and recreational opportunities at the Berkeley Waterfront and (2) provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. In order for an alternative to meet the basic project objectives, it must meet both of the objectives identified above. This Alternative would not meet the objective of enhancing public access and recreational opportunities at the Berkeley Waterfront. Under this alternative, the pier would remain closed and would continue to deteriorate. Patrons under this alternative would access the Berkeley Waterfront; however, there wouldn't be enhanced public access and recreational opportunities. Given the location of this alternative, there would be no need for a new pier, no public plaza for the pier, no cycle

[1] WETA. 2008. Berkeley/Albany Ferry Terminal Study Draft EIS/EIR. October. Prepared by URS.

track to connect to the public plaza, and no Bay Trail Extension along Seawall Drive. Furthermore, removing docks within the Marina would reduce recreational opportunities at the Waterfront. Next, this alternative would not meet the basic project objective of providing efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco, because this alternative would not be considered efficient. This alternative would compromise ferry travel times and overall operational performance. Inside the marina, the ferry vessels would face additional maneuvering constraints, increased docking and departure times and potential conflicts with recreational users. These factors would extend the overall travel times, reduce service reliability and diminish the competitiveness of the Berkeley- San Francisco Ferry Route, compared to other Transbay modes of travel.[2] Because this alternative is not considered operationally feasible and does not meet the basic project objectives, this alternative has been considered but rejected.

- **Foot of Gilman Street.** The City received scoping comments about considering locating the project at the foot of Gilman Street as a potential alternative. This alternative location is one that was studied previously as part of a Draft EIS/EIR from 2008.[3] This alternative would be located at the western end of Gilman street, next to the Berkeley Waterfront. This alternative has been rejected from further consideration because it would increase environmental impacts. This alternative would locate the ferry terminal within Eastshore State Park in an area that is more ecologically sensitive than the proposed project site. The 2008 Draft EIS/EIR documented that this alternative could affect eelgrass habitat.[4] This alternative is expected to result in greater impacts on biological resources and similar other impacts than the proposed project (i.e., similar construction-related impacts on noise and air quality, given its proximity to Tom Bates Regional Complex). Because this alternative would increase environmental impacts and not reduce significant environmental impacts, this alternative has been considered but rejected.
- **HS Lordship Site.** The 2008 Berkeley/Albany Ferry Terminal Study Draft EIS/EIR identified the HS Lordship Site Alternative, which would be located in the cove behind the former HS Lordship Restaurant. This potential alternative was rejected in the past given constraints related to additional dredging, slower operating speeds, conflicts with BCDC Bay Plan policies, and lack of public support.[5] Due to its location, this alternative is expected to increase environmental impacts and not reduce significant environmental impacts. This includes the following potentially increased impacts: potential land use inconsistencies and additional impacts from additional dredging For this reason, this alternative has been considered but rejected.
- **Locations outside of the City of Berkeley.** The City received scoping comments about considering locating the project in two locations that are outside the City of Berkeley: one at Golden Gate Fields and one in the Emeryville Marina. Both of these potential alternative locations are outside of the City's jurisdiction. Golden Gate Fields is within the City of Albany and the Emeryville Marina is within the City of Emeryville. Because the City of Berkeley has no jurisdiction over these areas, these alternatives would not be considered potentially feasible. In addition, because these alternatives are not located within the Berkeley Waterfront, they would not meet the basic project objective of the project, to enhance public access and recreational opportunities at the Berkeley Waterfront. Because these

[2] Gerrity, Brian. 2025. Project Manager, SF Bay Ferry. Personal communication via email regarding alternatives with Leo Mena, Rincon Consultants, Inc. October 3.
[3] WETA. 2008. Berkeley/Albany Ferry Terminal Study Draft EIS/EIR. October. Prepared by URS.
[4] WETA. 2008. Berkeley/Albany Ferry Terminal Study Draft EIS/EIR. October. Prepared by URS.
[5] WETA. 2008. Berkeley/Albany Ferry Terminal Study Draft EIS/EIR. October. Prepared by URS.

alternatives are infeasible and do not meet the basic project objectives, these alternatives have been considered but rejected.

- **Smaller scale ferry service.** Under this potential alternative, smaller ferry vessels or a reduced ferry vessel schedule would be used. A smaller ferry or reduced ferry vessel schedule would still result in additional ferry vessels and would not reduce a significant environmental impact. Regarding biological resources, in general, fish and marine mammals potentially near the Berkeley waterfront are adapted to the high activity level of an active marina and would avoid ferry boats as they now avoid commercial and recreational boaters. An alternative that would introduce a smaller scale ferry service would still have the same potential impact. Therefore, this alternative would not reduce any environmental impacts. Because this alternative would not reduce significant environmental impacts, this alternative has been considered but rejected.
- **No ferry service with new pier Alternative.** Under this potential alternative, the proposed pier could be implemented similar to the proposed project (1,080 feet), but no ferry service would be installed. This project would be overall similar to the proposed project but would not include the infrastructure associated with the ferry vessels (no breakwater, gangways, floats, etc.). This alternative would not meet the two basic project objectives to: (1) enhance public access and recreational opportunities at the Berkeley Waterfront and (2) provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. In order for an alternative to meet the basic project objectives, it must meet both of the objectives identified above. While this alternative would meet the first objective to enhance public access and recreational opportunities at the Berkeley Waterfront, it would not provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. In addition, this alternative is not feasible. WETA would only provide project funding if the ferry is included, and since Berkeley requires funding to restore the closed pier, it is only with WETA support that the pier can be rebuilt. WETA can only fund and implement ferry projects. Because this alternative is not considered feasible and does not meet the basic project objectives, this alternative has been considered but rejected.
- **Repair the Existing Pier Alternative.** This potential alternative would entail repairing the existing pier. This Alternative is not considered feasible due to the current condition of the pier. Based on review from qualified engineers, there is widespread spalling[6] of concrete that is exposing the layers of reinforcing materials, which are severely corroded and have resulted in portions of the pier collapsing. This deterioration is due to the age of the structure and the high level of chlorine in the concrete, which causes the reinforcing to rust and leads to spalling and more corrosion. There is no way to extract the chlorine from the concrete and thus the pier has reached its end of service life.[7] Because this alternative is not considered feasible, this alternative has been considered but rejected.
- **Monopile Alternative.** This potential alternative entails using a single-row of piles rather than a double-row of piles in the water. In order to meet the seismic demands for the pier, the area of the monopile would need to be greater than the combined area of the dual row of proposed piles.[8] Since a monopile would result in more fill due to its larger area, it would not reduce any environmental impacts. Because this alternative would not reduce significant environmental impacts, this alternative has been considered but rejected.

[6] Spalling refers to the breaking, flaking, or chipping away of concrete, often caused by corrosion of embedded reinforcing steel.
[7] Rivas, Jessica. 2025. Senior Marine Engineer, COWI. Personal communication via email regarding alternatives with Leo Mena, Rincon Consultants, Inc. October 13.
[8] Rivas, Jessica. 2025. Senior Marine Engineer, COWI. Personal communication via email regarding alternatives with Leo Mena, Rincon Consultants, Inc. October 13.

- **Increasing Bay Area Rapid Transit (BART) capacity.** The City received a scoping comment to consider improving BART capacity. The City of Berkeley has no jurisdiction over BART and would not be able to make any changes associated with the capacity. Since the City would not be able to make any changes to BART capacity, this potential alternative is considered infeasible and has been considered but rejected.
- **Improving access to BART within Berkeley.** The City received a scoping comment to consider improving BART access. While the City could feasibly make improvements that would increase access to BART, this alternative would not meet the basic project objectives. The project has two basic objectives: (1) enhance public access and recreational opportunities at the Berkeley Waterfront and (2) provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. This potential alternative would not meet these basic project objectives and has therefore been considered but rejected.
- **Feasibility Alternatives.** As part of the Feasibility Study, the City considered four different potential configurations for the pier. [9] These configurations were known as Sword, Dog Leg, Fish Hook, and Circle. The City conducted community outreach to determine the community's preference, which ended up being the Sword Configuration. The Sword Configuration design is included as part of the proposed project design. Because the community has provided their preference, the City is not considering a potential alternative pier configuration for the project. Furthermore, these potential alternative configurations are not expected to result in reduced environmental impacts. These alternatives would still require fill and work in the Bay, and the environmental impacts associated with the different configurations are expected to be the same as the proposed project. The operational impacts would remain the same. Because these alternatives would not reduce significant environmental impacts, these alternatives have been considered but rejected.

5.10 Environmentally Superior Alternative

CEQA Guidelines Section 15126(e)(2) requires identification of an environmentally superior alternative. If the "No Project" Alternative is environmentally superior, CEQA requires selection of the "environmentally superior alternative other than the No Project Alternative" from among the proposed project and the alternatives evaluated.

5.10.1 Alternative Impacts and Meeting Objectives Comparison

To identify the environmentally superior alternative in accordance with the CEQA Guidelines, Table 5-2 presents a comparison of the impacts related to the alternatives and indicates whether each alternative's environmental impact is greater than, lesser than, or similar to that of the proposed project for each of the topic areas that were analyzed.

[9] Berkeley, City of. 2023. Feasibility Study. Ferry Facility at Berkeley Municipal Pier. June. Available: https://berkeleyca.gov/sites/default/files/documents/FINAL_Ferry%20Terminal%20Facility%20Feasibility%20Study%20-%20Berkeley%20Municipal%20Pier.pdf (accessed October 2025).

Table 5-2 Summary of Alternatives' Impacts and Comparison to Proposed Project

Issue	Proposed Project Impact Classification	Alternative 1 Impact Classification	Alternative 2 Impact Classification	Alternative 3 Impact Classification	Alternative 4 Impact Classification
Aesthetics	LTSM	LTS (Greater)	LTSM (Similar)	LTSM (Similar)	LTSM (Lesser)
Air Quality	LTSM	LTS (Greater)	LTSM (Lesser)	LTSM (Lesser)	LTSM (Greater)
Biological Resources	LTSM	NI (Lesser)	LTSM (Lesser)	LTSM (Lesser)	LTSM (Lesser)
Cultural Resources	LTSM	NI (Lesser)	LTSM (Similar)	LTSM (Similar)	LTSM (Lesser)
Geology and Soils	LTSM	NI (Lesser)	LTSM (Similar)	LTSM (Similar)	LTSM (Lesser)
Greenhouse Gas Emissions and Energy	LTS	LTS (Greater)	LTS (Similar)	LTS (Similar)	LTS (Greater)
Hazards and Hazardous Materials	LTS	LTS (Similar)	LTS (Similar)	LTS (Similar)	LTS (Lesser)
Hydrology and Water Quality	LTSM	LTS (Lesser)	LTSM (Lesser)	LTSM (Lesser)	LTSM (Lesser)
Land Use and Planning	SU*	LTS (Greater)	SU (Similar)	SU (Similar)	LTSM (Greater)
Noise	SU	LTS (Lesser)	SU (Lesser)	SU (Lesser)	SU (Lesser)
Recreation	SU**	NI (Lesser)	SU (Similar)	SU (Similar)	SU (Lesser)
Transportation	LTS	LTS (Greater)	LTS (Similar)	LTS (Similar)	LTS (Greater)
Tribal Cultural Resources	LTSM	NI (Lesser)	LTSM (Similar)	LTSM (Similar)	LTSM (Lesser)
Utilities and Service Systems	LTSM	NI (Lesser)	LTSM (Similar)	LTSM (Similar)	LTSM (Lesser)

Notes: NI = No Impact; LTS = Less than Significant; LTSM = Less than Significant with Mitigation; SU = Significant and Unavoidable

*This significant unavoidable impact is due to an inconsistency with the Berkeley Municipal Code that governs noise levels, due to construction noise.

**This significant unavoidable impact is due to the construction-noise impacts associated with the construction of a recreational facility.

Alternative 1 Comparison to Proposed Project Summary

The No Project Alternative would generally result in greater impacts compared to the proposed project (see Table 5-2). By not implementing ferry service, Alternative 1 would result in greater impacts related to air quality, GHG emissions, land use and planning, and transportation, because Alternative 1 would not provide the same reductions in VMT, criteria air pollutants, and GHG emissions, as the proposed project. Alternative 1 would avoid certain temporary environmental impacts associated with construction for the following resources: with biological resources, cultural resources, geology and soils, hydrology and water quality noise, recreation, tribal cultural resources, and utilities and service systems. In addition, the proposed project would avoid the operational impacts associated with potential whale strikes and public plaza noise, both of which were found to be less than significant with mitigation for the proposed project. Alternative 1 would not meet the plan's objectives, as it would not enhance public access and recreational opportunities at the Berkeley Waterfront and would not provide efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco.

Alternative 2 Comparison to Proposed Project Summary

The Shortened Breakwater Alternative would generally result in overall similar environmental impacts compared to the proposed project (see Table 5-2). By shortening the breakwater, construction-related impacts would be reduced slightly, including construction-related impacts related to air quality, biological resources, hydrology and water quality, and noise. Nonetheless, under this Alternative, the same mitigation identified for the proposed project would be required. Overall, operation-related impacts would remain the same. Overall, this alternative would advance the basic project objectives of enhancing public access and recreational opportunities at the Berkeley Waterfront and providing efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. However, this alternative would meet the project objective (related to enhancing public access and recreational opportunities at the Berkeley Waterfront) to a slightly lesser extent than the proposed project due to the reduced length of the breakwater. It should be noted that the primary purpose of the breakwater is to provide a safe harbor for ferry vessels, and the public access that it provides is a secondary purpose.

Alternative 3 Comparison to Proposed Project Summary

The Shortened Pier Alternative would generally result in overall similar environmental impacts compared to the proposed project (see Table 5-2). By shortening the pier, construction-related impacts would be reduced slightly, including construction-related impacts related to air quality, biological resources, hydrology and water quality, and noise. Nonetheless, under this Alternative, the same mitigation identified for the proposed project would be required. Overall, operation-related impacts would remain the same. Overall, this alternative would advance the basic project objectives of enhancing public access and recreational opportunities at the Berkeley Waterfront and providing efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. However, this alternative would meet the project objective (related to enhancing public access and recreational opportunities at the Berkeley Waterfront) to a slightly lesser extent than the proposed project due to the reduced length of the pier. It should be noted that the primary purpose of the pier beyond the breakwater is to provide enhanced public access and recreational opportunities. Unlike the breakwater that has a dual purpose of providing a safe harbor for ferry vessels and providing public access/recreational opportunities; or the portion of the pier from the public plaza to the breakwater, which has the dual purpose of providing access to ferry vessels and public access/recreational opportunities; the portion of the pier beyond the breakwater's sole purpose is provide public access/recreational opportunities.

Alternative 4 Comparison to Proposed Project Summary

The Reduced Landside Facilities Alternative would generally result in overall similar environmental impacts compared to the proposed project (see Table 5-2). By reducing the number of facilities to be installed, construction-related and excavation-related impacts would be reduced slightly, including construction-related and excavation-related impacts related to aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, recreation, tribal cultural resources, and utilities and service systems. Overall, operation-related impacts would remain the same; however, this Alternative 4 could result in slightly greater operational impacts related to air quality, GHG emissions, land use and planning, and transportation, due to the potential for the project site to be used by less visitors compared to the proposed project because of its reduced attractiveness with less amenities. Overall, this alternative would advance the basic project objectives of enhancing public access and recreational

opportunities at the Berkeley Waterfront and providing efficient and environmentally friendly zero emission public ferry service between Berkeley and San Francisco. However, this alternative would meet the project objective (related to enhancing public access and recreational opportunities at the Berkeley Waterfront) to a slightly lesser extent than the proposed project due to the reduction in facilities. Under Alternative 4, people using the Berkeley Waterfront would not be able to use a cycle track to access the project site; would not be able to congregate in a public plaza; would not be able to use the Bay Trail Extension off Seawall Drive; and overall, would not be able to enjoy the Bay as much as under the proposed project.

5.10.2 Identification of Environmentally Superior Alternative

The proposed project as well as any of the alternatives considered would provide environmental benefits, such as reductions in VMT that would not be realized under the No Project Alternative (Alternative 1). While Alternative 1 would avoid certain construction-related impacts of the proposed project, it would not meet basic project objectives and is not considered the environmentally superior alternative, because it would not provide the long-term environmental benefits of new ferry service (i.e., reduced VMT, reduced air quality emissions, reduced GHG emissions).

The proposed project and Alternatives 2 through 4 would all provide the long-term environmental benefits of new ferry service. Overall, the proposed project and Alternatives 2 and 3 would result in the same long-term environmental benefits of new ferry service, because operation would be similar. The long-term environmental benefits of new ferry service under Alternative 4 are expected to be slightly reduced compared to the proposed project, since patrons may opt to use ferry service less if there are fewer landside amenities. Nonetheless, Alternative 4 is still expected to provide long-term environmental benefits of new ferry service.

In comparing Alternatives 2 through 4, the main difference relates to the extent in which these alternatives would reduce construction-related impacts. Table 5-2 identifies that Alternatives 2 and 3 would reduce five construction-related environmental impacts (related to air quality, biological resources, GHG emissions, hydrology and water quality, and noise) and that Alternative 4 would reduce ten environmental impacts (related to aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, recreation, tribal cultural resources, and utilities and service systems) while increasing 4 environmental impacts (related to air quality, GHG emissions, land use and planning, and transportation).

Overall, Alternative 4 would have a greater reduction in construction-related impacts compared to the proposed project and other alternatives, still meet the basic project objectives, and still provide long-term environmental benefits of new ferry service (albeit potentially to a slightly lesser extent than Alternatives 2 and 3). Therefore, of the alternatives evaluated in this EIR chapter, Alternative 4 (Reduced Landside Facilities Alternative) would be the environmentally superior alternative.

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6 EIR Preparers

This EIR was prepared by the City of Berkeley, with the assistance of Rincon Consultants, Inc. Consultant staff involved in the preparation and review of the EIR and associated transportation impact assessment (TIA) technical analysis are listed below.

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