

# California Environmental Quality Act (CEQA) Environmental Checklist Form

**1. Project Title:** Alameda Climate Action and Resiliency Plan (CARP)

**2. Lead Agency Name and Address:**

City of Alameda  
Planning, Building and Transportation Department  
2263 Santa Clara Avenue, Room 190  
Alameda, CA 94501-4477

**3. Contact Person and Phone Number:**

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**4. Project Location:**

Citywide

**5. Project Sponsor's Name and Address:**

City of Alameda  
Planning, Building and Transportation Department  
2263 Santa Clara Avenue, Room 190  
Alameda, CA 94501-4477

**6. General Plan Designation:**

The CARP would be implemented Citywide, affecting all General Plan land use designations.

**7. Zoning:**

The CARP would be implemented Citywide, affecting all zoning districts.

## 8. Description of Project:

### Project Background and Scope of This Document

In 2006 the California Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, intended to address environmental problems related to climate change by requiring a sharp reduction in the emissions of greenhouse gases (GHGs), one of the primary contributors to global warming. This bill was passed following the June 1, 2005 issuance by then-Governor Arnold Schwarzenegger of Executive Order S-3-05, which required the State to reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. AB 32 required the California Air Resources Board (CARB) to develop a Scoping Plan that describes the approach California will take to reduce GHGs to achieve the reduction goals established by Executive Order S-3-05. The Scoping Plan must be updated every five years. CARB adopted the first Scoping Plan in December 2008, and the First Update to the Climate Change Scoping Plan in May 2014.

The State's GHG reduction goals were further focused by Executive Order B-30-15, issued on April 29, 2015 by then-Governor Edmund G. Brown. This order established a mid-term GHG Statewide reduction goal of 40 percent below 1990 levels by 2030. This requirement was codified by the Legislature with the 2016 passage of Senate Bill (SB) 32. In December 2017, CARB adopted the 2017 Climate Change Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2017 Scoping Plan notes that local governments are essential partners in achieving California's GHG reduction goals.

The *Alameda Climate Action and Resiliency Plan (CARP)* that is the subject of this Initial Study has been prepared as a roadmap for the City of Alameda to follow in reducing the City's GHG emissions and assist the State in meeting the GHG reduction goals established by AB 32 and SB 32. It is also intended to help the City address the growing threats posed by climate change, such as sea level rise, which has already increased by 8 inches in San Francisco Bay over the past century, and could rise 2 feet by 2050, and 6 feet or more by 2100.

By its very nature, the Alameda CARP will provide environmental benefits; its implementation will generally not result in adverse environmental effects, and will reduce adverse impacts already occurring on a Statewide, regional, and local level. In this respect, the CARP can be viewed as a mitigation plan for the effects of GHG emissions and global warming. At the Statewide and regional levels, there would be no adverse environmental effects resulting from implementation of the CARP. At the local citywide level, the CARP is specifically designed to reduce greenhouse gas emissions, reduce air pollutants, and reduce traffic congestion resulting from local activities, which are described in the CARP, all of which will have beneficial environmental effects. However, certain specific actions and adaptation strategies identified in the CARP will require construction of new infrastructure. Construction activities associated with that new infrastructure have the potential to cause localized, site-specific, project-specific adverse environmental impacts, such as construction-related dust or air quality impacts or construction-related biological impacts associated with work in the estuary to raise seawalls or breakwaters to address sea level rise.

Such impacts may be highly localized and only occur at and/or in close proximity to a specific construction site. These local and sub-local construction-related impacts are identified in this Initial Study, and are the focus of this document.

It should be emphasized that this Initial Study and Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA) is not intended to provide final environmental clearance for all subsequent actions taken under the CARP. As the City undertakes implementation of specific programs or actions recommended by the CARP, the City, as the lead agency for those actions and programs, will make case-by-case evaluations as to whether the environmental effects of the anticipated action have been adequately addressed in this IS/MND, or whether additional environmental review may be necessary. In some cases, other agencies will serve as the lead agency. For example, one of the GHG reduction actions identified in the CARP calls for construction of a new cross-bay Bay Area Rapid Transit (BART) tube with new station stops in Alameda. For a project of this magnitude, the City will not be the lead agency. BART will likely be the lead agency and will require extensive environmental review that is beyond the scope of this document.

### CARP Overview

Building on prior efforts, the CARP serves as an update to the City of Alameda's 2008 *Local Action Plan for Climate Protection*, which set a goal of reducing the City's GHG emissions to 25 percent below 2005 levels by 2020. The CARP builds on and continues the progress made by the City to date. It establishes a more ambitious mid-term GHG reduction goal than the State of California's: to reduce emissions to 50 percent below 2005 levels by 2030.

The CARP outlines a recommended program of new ordinances, facilities, and actions to achieve the following eight targeted goals:

1. **GHG Reduction:** Reduce GHG emissions to 50 percent below 2005 levels by 2030 and 80 percent below 2005 levels by 2050.
2. **Sea level rise (SLR) and storm surges:** Protect assets from SLR and storm surges, plan future land use to avoid impacts, and enhance natural shoreline habitat to mitigate impacts.
3. **Inland flooding:** Increase resiliency and capacity of the stormwater system to prevent flooding of assets during extreme precipitation events.
4. **Drought:** Reduce water consumption and increase drought-resistant landscaping.
5. **Extreme heat:** Reduce heat island effect and protect vulnerable populations from heat impacts during heat waves.
6. **Wildfires:** Protect public health from smoke impacts during wildfire events, especially vulnerable populations.
7. **Earthquakes/liquefaction:** Ensure building and infrastructure retrofit and new design standards in areas at high risk of liquefaction consider both seismic risk and SLR

impacts.

8. **Effective Implementation and Capacity Building:** Develop financial and human resources and increase transparency, community engagement, social resilience, and support for effective CARP implementation.

To achieve these goals, the CARP identifies a combined approach of GHG reduction actions and climate change adaptation strategies that together will reduce the City's contribution to the harmful emissions causing climate change while addressing what the City can do to adapt to those climate impacts that are unavoidable. These two components of the CARP are summarized below. The reader is directed to the CARP itself for additional details and for the adopted text of all of the adaptation strategies and mitigation actions.

### GHG Emissions Reduction Actions

The CARP identifies GHG emissions reduction actions in the following key sectors of emissions in the City: transportation, building energy use, and waste management. The CARP GHG emissions reduction actions complement a variety of reduction programs in these sectors that the City has already implemented or planned.

The majority of the GHG emissions reduction actions included in the CARP target the transportation sector. They call for encouraging telecommuting (T1); building more bikeways (T2); improving traffic signal synchronization (T3); expanding the City's EasyPass transit pass program (T4); banning gas-powered leaf blowers (T5); increasing the availability of electric vehicle (EV) charging stations (T6); promoting the purchase of low- and zero-emission (LEV/ZEV) vehicles (T7); encouraging new EV purchases (T8); encouraging businesses to establish EV charging stations (T9); and converting the City's light-duty vehicle fleet to electric vehicles (T10). These actions complement and build upon the City's existing *Transportation Choices Plan*, which calls for expanded Citywide and ferry shuttles, bus service improvements, increased ferry access and service, traffic calming measures, and construction of a new Miller-Sweeney Multimodal Lifeline Bridge crossing into the City.

In the building energy use sector, the CARP identifies four GHG emissions reduction actions, including encouraging homeowners and commercial building owners to convert existing buildings to all electric heating and water heating (E1); requiring all future residential construction to be 100 percent electric-powered (E2); continuation of programs to promote use of energy-efficient home appliances to reduce natural gas consumption (E3); and requiring a minimum of 10 percent of roof areas on new development in Alameda Point to be installed as green roofs (E4).

With respect to the waste management sector, the City is already implementing a *Zero Waste Implementation Plan Update (ZWIP)*, approved by the City Council in July 2018, which commits the City to achieving 95 percent diversion from landfill disposal of all divertible waste materials and supporting a zero waste culture in Alameda, among other measures.

A third set of GHG emissions reduction actions identified in the CARP pertain to the urban forest and other vegetated areas in Alameda's parks. Because Alameda's 2017 *Tree Canopy Assessment* determined that the City's existing stock of trees sequesters over 11,000 MTCO<sub>2</sub>e each year, carbon sequestration was identified as another area where the City could achieve significant reduction in emissions of GHGs. The CARP actions include converting organic waste to compost to be used in Alameda parks and other open spaces, such as preserved areas in Alameda Point (S1), and planting 1,500 new trees in Alameda (S2), in addition to the 2,000 new trees by 2030 that are already part of current City actions.

As previously noted, implementation of the GHG emissions reduction actions described above will generally result in substantial environmental benefits, and will generally not result in adverse impacts. However, in the case of actions that require construction of new infrastructure, short-term and/or localized environmental impacts could occur. For example, Program T2 calls for the construction of more bike lanes, which would require construction trucks that could increase traffic congestion, and would generate construction noise and dust, which would be both local and short-term impacts. Mitigation measures are identified in this Initial Study to ensure such impacts are less than significant. Another example is Program T3, calling for synchronization of traffic signals, which may require traffic control plans to reduce localized traffic or safety impacts during construction. These types of impacts and the necessary corresponding mitigation measures are identified in the appropriate resource sections of this document for all of the applicable CARP programs and actions.

### Climate Change Adaptation Strategies

The CARP lays out short- and long-term strategies for building climate resilience and supporting the health and safety of the Alameda community. The hazards caused by climate change that the City faces include sea level rise (SLR) and storm surges, inland flooding during extreme precipitation events, drought, extreme heat waves, wildfires, and liquefaction during earthquakes. (Although earthquakes are not explicitly a climate hazard, climate change could potentially cause them to become more destructive because of an increased risk of soil liquefaction that can be exacerbated by SLR.) Flooding is identified as the greatest climate threat that Alameda faces, both temporary flooding caused by storm surge and permanent inundation from SLR.

To address these hazards, the CARP includes three adaptation-focused components: 1) a summary of existing and future climate conditions; 2) an assessment of the City's vulnerability to these hazards, including social vulnerability; and 3) a list of adaptation strategies and associated actions to address key vulnerabilities defined during the vulnerability assessment. The adaptation strategies are presented in detail for priority assets, such as the City's shoreline areas, and more generally for asset categories and sectors. The CARP focuses first on protecting assets that are likely to be compromised soonest and with greatest consequences, while accommodating longer-term solutions. The adaptation strategies are presented for short- (<5 years), mid- (5 to 10 years), and long-term (>10 years) planning horizons.

Alameda's primary vulnerabilities to climate change include its stormwater drainage system, sanitary sewer system, energy system, and communications system. A non-asset vulnerability is associated with contaminated lands and waste. Vulnerabilities to the drinking water system are not specifically addressed in the CARP since the East Bay Municipal Utility District (EBMUD) is the potable water purveyor and is responsible for sustainability in source and distribution. The City is responsible for the water infrastructure at Alameda Point; however, this infrastructure will be replaced with EBMUD assets as development and redevelopment progress.

Other key vulnerabilities are due to overlapping jurisdictional oversight at Alameda Point. In part due to the City's history as a naval air station, several contaminated sites are located in Alameda, including Superfund sites overseen by U.S. Environmental Protection Agency (EPA), leaking underground storage tanks (LUSTs), military LUSTs, military cleanup sites, and closed landfills. In addition to these contaminated land sites, hazardous waste facilities in the City generate or store hazardous waste. Since federal, State, and/or local agencies may exert jurisdiction over contaminated land sites, the overlap of jurisdictional oversight can be a point of vulnerability for Alameda and other cities, as overlapping jurisdictions can lead to confusion during mitigation and response efforts, which can exacerbate impacts.

The CARP identifies 11 priority assets to be targeted by adaptation actions, including six shoreline assets, two utilities assets, and three transportation assets. A sea level rise scenario of 36 inches developed and mapped by the San Francisco Bay Conservation and Development Commission (BCDC) would have significant impacts to priority assets. This SLR scenario is expected mid to late century, although it could be experienced today with a 50-year storm. Addressing assets that would be impacted first and with greatest consequence allows the City to manage risk that exists today while allowing time for global GHG emissions to reduce and end-of-century scenarios to be refined. This approach is called adaptive management. Magnitude and timing of exposure, sensitivity to climate change, consequence of exposure, and adaptive capacity were criteria employed to identify the City's priority assets. The CARP also lists secondary assets that would not be exposed until higher water levels occur, or that would be protected by actions taken to protect the priority shoreline assets. They include facilities such as Fire Station #4 on Bay Farm Island, Encinal High School, Alameda Hospital, and others.

The priority assets are:

#### Shoreline and Natural Areas

- Shoreline adjacent to Webster and Posey Tubes
- Veteran's Court seawall
- Crown Memorial State Beach
- Bay Farm Island Bridge touchdown and Towata Park
- Eastshore Drive
- Bay Farm Island Lagoon System 1 north outlet gate and seawall

### Utilities

- Storm drain pump stations
- Bayview weir and outfall

### Transportation

- Critical and high-use roadways (utilized by AC Transit)
- SR260 including Webster and Posey Tubes
- SR61 (Doolittle Drive)

General strategies and associated actions are provided in the CARP for the following asset categories:

- Buildings
- Utilities
- Critical services
- Land use
- Shoreline and natural areas
- Transportation

Within each of these categories, the CARP highlights where and how social vulnerability (individuals, households, and neighborhoods that may be disproportionately harmed by a hazard) must be integrated into the siting, design, and implementation of strategies. The CARP also provides strategies for non-assets, including contaminated lands and waste, critical services, heat and drought, and wildfire smoke.

A significant portion of the CARP adaptation strategies entail actions that would not typically have the potential to cause adverse environmental impacts. They include activities such as:

- conducting technical studies
- developing plans
- conducting asset inventories and assessments
- coordinating with other agencies
- conducting public outreach
- performing monitoring of asset and/or environmental conditions
- exploring options
- modifying City code requirements
- adopting policies
- developing grant programs
- developing real estate disclosure requirements

Due to the large number of such strategies identified in the CARP, and because they are not anticipated to result in adverse environmental impacts (and such activities are typically exempt from CEQA), they are not described in further detail in this project description. However, summaries of all of the climate change adaptation strategies are listed in Appendix A. In the case of adopting policies or programs, depending on the scope of such policies or programs, there could potentially be environmental effects that could arise from their implementation. At the time the City undertakes these kinds of actions, it will make a determination as to whether any environmental review pursuant to CEQA is required, and will conduct such assessments as warranted.

Regarding the strategies that would require construction activity or would otherwise have the potential for environmental impacts, these are described in general terms here but more specifically described in the analytical sections of this Initial Study (air quality, biological resources, etc.) where they would have potential impacts.

### ***Summary of the Climate Change Adaptation Strategies***

A significant focus of the adaptation planning is on creating or enhancing **shoreline protections**, one of the City's key vulnerabilities. Proposed strategies include building or expanding levees and seawalls, stabilizing and managing sand migration at beaches, protecting roadways, and installing wave attenuation and erosion-control features like submerged aquatic vegetation.

With **transportation infrastructure** being another key vulnerability, numerous adaptation strategies are identified to reduce flooding and SLR hazards. Proposed strategies include enhancing the floodwalls at the Webster Tube exit and the Posey Tube entrance; implementing flood-proofing for ventilation, electrical, and pumping infrastructure in Posey and Webster Tubes; installing saltwater-resistant pumps in Posey and Webster Tubes; improving roadway culverts and drainage facilities; expanding flood-proofing at bus stops and elevating high-use stops where flooding is likely; establishing transit alternatives to buses, including water taxis, ferries, and BART; installing new pedestrian and bicycle facilities; and more.

Adaptation strategies for **utilities** include implementing upgrades to the storm drain pump stations and other stormwater system components, installing new flap gates and performing dredging near the Bayview stormwater outfall, implementing upgrades to the storm drain pump stations and other stormwater system components, replacing iron pipes with non-corrosive materials, installing back-up power at pump stations, and constructing green infrastructure in parks and along roadways.

Adaptation strategies for **critical services** are focused on education, community outreach and coordination, technical assistance, and developing emergency response protocols, policies, procedures, and trainings. They do not include strategies expected to result in adverse environmental impacts. Strategies for **heat and drought** would also have no potential for



environmental impacts. Examples include utilizing compost in concert with tree plantings, bulk purchase of trees for discounted sales to private property owners, establishing water use reduction goals, coordinating with the East Bay Municipal Utility District (EBMUD) on water conservation programs, implementing water-saving technologies at all City-owned buildings, planting trees in heavily paved areas, and adding an additional resident cooling center in Alameda to serve at-risk populations.

Adaptation strategies for **wildfire smoke** include providing masks and air filters to the City's vulnerable populations, developing a smoke hazard alert system in collaboration with Alameda County, adopting health-based exposure thresholds for restricting outdoor activities, supporting citywide tree planting efforts, and conducting community outreach on wildfire risk and smoke impacts that reaches non-English speaking individuals and those without cell phones. Environmental impacts are not expected from implementation of the wildfire smoke strategies.

Adaptation strategies and actions for **waste and contaminated lands** include increasing the number of hazardous waste disposal and drop-off locations; encouraging residents and land owners to utilize the hazardous waste disposal and drop-off locations; prioritizing contaminated sites for remediation; developing a publicly available detailed catalog of contaminated sites in Alameda; and evaluating the impacts of contaminated sites in Alameda on surrounding communities, particularly on environmental justice communities and other vulnerable populations. There is also a strategy to develop and implement a comprehensive and transparent community engagement approach targeted at environmental justice communities that are disproportionately impacted by contaminated lands and other environmental issues.

#### Approach to the Environmental Review

Absent detailed, site-specific proposals for construction of new or expanded infrastructure that is part of the CARP, the environmental review of the GHG Emissions Reduction Actions and climate change adaptation strategies is programmatic in nature. It conceptually identifies the types of environmental impacts that would or could result from implementation of certain activities included in the CARP without attempting to quantify the magnitude of such impacts. However, to the extent feasible, mitigation measures have been identified that in most if not all cases would fully mitigate the identified impacts.

At such time as the City embarks on implementation of a specific CARP action, it will revisit this IS/MND to determine whether the potential impacts from that action have been adequately disclosed and mitigated in this document. While it is expected that most actions will not require further review, where warranted, the City will conduct additional environmental review of the proposed action to ensure compliance with CEQA.

Some of the actions and strategies in the CARP call for implementation of various plans that have previously been adopted by the City. These plans include the *Storm Drain Master Plan*, *Zero Waste Implementation Plan Update*, *Capital Improvement Plan (CIP)*, *Transportation Demand*

*Management Plan, Transportation Choices Plan, and Pedestrian and Bicycle Master Plan.* These plans were previously subject to CEQA review, and additional analysis is not required prior to their implementation. Therefore, evaluation of potential environmental effects from implementation of these plans is not provided in this document.

## **9. Project Setting**

The proposed CARP would be implemented at a variety of locations throughout the City of Alameda. Alameda is an island community located on the eastern edge of central San Francisco Bay, approximately 1.8 miles south of the San Francisco Bay Bridge and approximately 2.8 miles east of San Francisco. An estuary ranging in width from about 300 feet to approximately 1,200 feet separates the main island from the City of Oakland, located immediately to the north. Bay Farm Island, located about 700 feet south of the main island, is really a peninsula, with a land connection to Oakland near its southern border at the City of San Leandro. In addition, Coast Guard Island, a small 67-acre artificial island located in the Oakland Estuary between Alameda and Oakland, is part of the City.

Vehicle access to the main island from Oakland is provided by the one-way Webster and Posey Tubes under the Oakland Estuary, accessed via Webster Street (State Highway 61), and by three bridges: the Park Street Bridge, Fruitvale Avenue Bridge, and High Street Bridge, all located near the southern end of the island. Regional access to the City is provided by Interstates 80, 880, and 980.

Bay Farm Island is connected to Alameda Island by a bridge via Otis Drive. Coast Guard Island can be accessed only via a bridge from Dennison Street in Oakland. Additional pedestrian access to Alameda is provided by two ferry services, one serving the main island from a terminal on the north shore near Alameda Point and one serving Bay Farm Island from a terminal located near the northwestern point of the island. Both services provide transportation to and from San Francisco. A third ferry terminal, along with expanded ferry service, is planned for Seaplane Lagoon at Alameda Point, located in the northwestern part of Alameda Island.

The topography of the City is predominantly flat, with elevations ranging from about 3 feet to 35 feet above mean sea level. Elevations on Bay Farm Island range from 0 feet to 18 feet above sea level. The City is largely built out, with the majority of land potentially available for redevelopment in Alameda Point, a former naval air station operated by the U.S. Navy and subsequently deeded to the City. Alameda is predominantly developed with residential, commercial, light industrial, and public open space uses, including 21 parks and a golf course on Bay Farm Island. Oakland International Airport is located immediately to the east and south of Bay Farm Island.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

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

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

**DETERMINATION:**

On the basis of the initial evaluation:

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

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
For

## EVALUATION OF ENVIRONMENTAL IMPACTS:

### I. AESTHETICS — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Have a substantial adverse effect on a scenic vista?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: As an island community, the shorelines and near-shore locations of Alameda provide a variety of scenic vistas, most of which encompass a portion of San Francisco Bay. Depending on location, some vantage points provide distant views toward the west of the cities and hillsides lining the San Francisco peninsula, with the hilly landforms most prominent.

The City of San Francisco is visible from many locations, and its iconic skyline is considered by many to constitute a scenic vista. Though urban in character, north shore views across Oakland Estuary, with a distant backdrop of East Bay hillsides can also be considered scenic vistas. Views across the western portion of the estuary are dominated by heavy port development, including towering cranes and large moored ships, but with the waterfront, downtown Oakland skyline, and distant hills part of the viewshed, many viewers would also consider these views to be scenic.

Implementation of some CARP actions and strategies could result in beneficial effects on scenic vistas. For example, depending on locations, Transportation Action T2, calling for construction of new bike lanes, could increase public access to some of the scenic vistas described above. This benefit could also accrue to the Citywide adaptation strategy for transportation that targets planning and installation of new pedestrian and bicycle facilities to improve connectivity to key transportation hubs, depending on where new facilities would be located.

The only CARP actions or strategies that could result in negative impacts on scenic vistas and views would be those calling for improvements or new development that could block or partially block visual access to a scenic vista. For example:

- **Adaptation planning for Eastshore Drive** (CARP Table 4-7), which includes building higher flood barriers that can be further built up over time. Depending how high barriers were constructed, they could partially block visual access to a scenic vista. However, there is no public road or trail running parallel to the shoreline that provides public visual access to the Bay; any views from Eastshore Drive are blocked by closely spaced single-family homes lining the southeastern side of the street. Fences and/or landscaping block visual access through the gaps between homes. It is not expected that higher flood barriers would block these private residents' visual access to the Bay, but rather that they could be partially encroached upon. This type of visual impact to a limited number of private views would not be considered a significant impact under CEQA. In addition, the strategy calls for close collaboration between the City and the affected homeowners, who will be able to provide input to the planning process for this action.
- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8), which includes expanding existing levees and seawalls to address future water levels. Depending on location and how high barriers were constructed, they could potentially

block visual access to a scenic vista, although existing public visual access to the Oakland Estuary from this portion of Alameda’s shoreline is quite limited.

- **Adaptation planning for Bay Farm Island Lagoon System 1 Outlet Gate and Seawall** (CARP Table 4-9), which includes elevating the existing seawall to provide immediate protection from storms and king tides. This seawall located at the outlet gate is short in length (apx. 100 feet), and raising it would not cause a substantial adverse effect on a scenic vista because Bay views encompassing Alameda Island are visible from the adjacent bike path that extends along the north and west sides of Bay Farm Island, providing several miles of unencumbered Bay vistas.
- **Adaptation planning for Veterans Court Seawall** (CARP Table 4-10), which includes elevating the existing seawall to provide greater flood protection. The visual impact at this location would be less than significant because the primary view over the seawall is of the concrete pilings supporting the Otis Street Bridge that connects Bay Farm Island to Alameda Island. It would not block Bay views available from Veteran’s Court toward the north and northwest.
- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) indicates shoreline modifications along Crown Beach may be required in the long term to prevent inundation from rising sea level. The CARP does not indicate what the shoreline modifications would entail, but there is potential for creation of new seawalls, berms, or dunes to block visual access to the scenic Bay vistas available from Crown Beach.

The impacts from the improvements to address sea level rise would be a **less-than-significant impact** on scenic vistas and views.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no State-designated scenic highways in the vicinity of the project site.<sup>1</sup> Therefore, the project would have **no adverse impact** on scenic resources within a State scenic highway.

<sup>1</sup> California Department of Transportation, Officially Designated State Scenic Highways, accessed April 29, 2019 at: [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/schwvy.htm](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/schwvy.htm).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The majority of the proposed GHG reduction actions and climate change adaptation strategies would not have the potential to substantially degrade the existing visual quality of the improvement site or its surroundings. Many improvements—such as expanding flood proofing at bus stops, making pump station upgrades, installing new flapgates at the Bayview outfall, or improving drainage at road culverts—would not be visible to the average viewer or would cause a negligible change in the local aesthetics. Other changes would be more visible, such as the creation of new bike lanes, but they would not cause dramatic changes to the overall visual conditions at a particular location, and the changes would not substantially degrade existing visual conditions. While construction of some improvements could degrade visual conditions at and around the work site, such visual impacts would be temporary and would not be considered significant under CEQA.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** None of the proposed GHG reduction actions or climate change adaptation strategies would create a new source of substantial light or glare.

**II. AGRICULTURAL RESOURCES** — *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State’s inventory of forest land, including the Forest and Range Assessment project and the Forestry Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The entire City of Alameda is designated “Urban and Built-Up Land” on the map of important farmland in Alameda County prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) by the Department of Conservation (DOC), a department of the California Resources Agency.<sup>2</sup> The DOC updates the maps every two years; the most recent map was prepared in 2016 and published in 2018.

By definition, “Urban and Built-Up Land” is not one of the categories of agricultural land defined by the FMMP, such as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, implementation of the CARP would have **no impact** on valuable farmland.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with existing zoning for agricultural use, or a Williamson Act contract?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** No land within the City of Alameda is zoned for agricultural use or under a Williamson Act contract.<sup>3</sup> Although a small portion of a residential neighborhood on Bay Farm Island has an agricultural combining district with its base R-1 One-Family Residence zoning district, none of the CARP strategies or actions would affect this neighborhood.

<sup>2</sup> California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, “Alameda County Important Farmland 2016” (map), August 2018.

<sup>3</sup> City of Alameda, Zoning Map, corrected April 2019.



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** No land within the City of Alameda is zoned as forest land and there is no forest land within the City.<sup>4</sup> The proposed project would therefore have no impact on forest or timber land.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Result in the loss of forest land or conversion of forest land to a non-forest use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Public Resources Code Section 12220(g) defines forest land as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. There is no forest land in the City of Alameda as defined in Public Resources Code Section 12220(g).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The City does not contain farmland or forest land, and implementation of the proposed CARP would therefore have no potential to convert such lands to other uses.

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<sup>4</sup> *Ibid.*

**III. AIR QUALITY** — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The purpose of the proposed CARP is to reduce GHG emissions within the City and region to help California achieve its target GHG reduction goals. The CARP includes a variety of GHG reduction actions for this purpose, such as building more bikeways, encouraging telecommuting, banning gas-powered leaf blowers, promoting electric vehicle ownership, electrifying the City’s light-duty vehicle fleet, and more. In addition to reducing GHGs, these actions would also reduce emissions of criteria air pollutants. Implementation of the CARP GHG reduction actions will help meet the goals set forth in the Bay Area Air Quality Management District’s 2017 Clean Air Plan (CAP), the applicable air quality plan.<sup>5</sup> Implementation of the CARP would not conflict with or interfere with implementation of the CAP.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As noted above, implementation of the CARP would not only reduce emissions of GHGs in Alameda and the surrounding region, it would also reduce emissions of criteria air pollutants. There are no CARP components with potential to generate significant emissions of criteria air pollutants during their operational phases. However, construction of new infrastructure or facilities would in most cases require operation of trucks and heavy construction equipment on a temporary basis, which would generate dust and increase emissions of other criteria air pollutants.

The Bay Area Air Quality Management District (BAAQMD) has published screening criteria for a wide range of different types of land use development projects that provide size thresholds for both operations of the development projects as well as construction of the projects.<sup>6</sup> The screening criteria were derived from computer modeling of criteria pollutants and precursors based on conservative assumptions. The screening thresholds were also established at conservative levels, such that BAAQMD has determined that development that falls below the thresholds would not have the potential to exceed the District’s established levels of significance, and quantified modeling of a project’s emissions of air pollutants is not necessary. Projects that

<sup>5</sup> Bay Area Air Quality Management District, *Final 2017 Clean Air Plan*, adopted April 19, 2017.

<sup>6</sup> Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, Table 3-1: Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes, May 2017.

exceed the applicable screening criteria may still not result in a significant air quality impact, but in those cases, quantified modeling of the project's air emissions should be performed before such a determination can be made. Modeling may also be required if construction would require extensive grading, soil import or export of more than 10,000 cubic yards of soil, significant building demolition, simultaneous construction or more than one land use type, or simultaneous occurrence of three or more construction phases, such as paving and building construction.

The BAAQMD screening criteria for construction-related emissions demonstrate that only large construction projects have the potential to generate potentially significant air pollutant emissions during the construction phase. For example, single-family residential subdivisions under 114 dwelling units, hotels under 554 rooms, and light industrial warehouses under 259,000 square feet would all have less-than-significant construction emissions and would not require computer modeling of their emissions impact. For many other land use types, including supermarkets, office parks, regional shopping centers, restaurants, health clubs, and more, if they would not exceed 277,000 square feet, BAAQMD has determined that their construction emissions would not cause a significant air quality impact.

None of the GHG reduction actions identified in the CARP would have potential to result in a significant air quality impact during construction. Some of the CARP climate change adaptation strategies would entail development of new infrastructure or facilities with more potential to generate construction-related emissions than the GHG reduction actions. However, comparing the expected scope of the projects to the BAAQMD construction screening criteria discussed above makes it clear that the number of projects that could potentially exceed significance thresholds would be quite limited. The following CARP programs were identified that could potentially generate significant emissions of criteria air pollutants during construction:

- **Adaptation planning for Crown Beach** (CARP Table 4-6) includes increasing dune management, beach stabilization, and road protection in the short term and widening the shoreline in the medium term. The scope of these activities is currently unknown, but there is potential for them to require extensive operation of earthmoving equipment and other heavy construction equipment, which could potentially generate air emissions that would exceed significance thresholds.
- **Adaptation planning for Eastshore Drive** (CARP Table 4-7) includes building higher flood barriers that can be further built up over time and augmenting mudflats with dredged sediment, both of which could potentially result in significant construction emissions.
- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8) includes expanding existing levees and seawalls to address future water levels. While these activities are not likely to result in significant construction emissions, their potential emissions should be evaluated prior to commencing construction, once the scope of the work has been defined.
- **Adaptation planning for SR260, Including Webster and Posey Tubes** (CARP Table 4-12) includes constructing floodwalls at the exit from Webster Tube and entrance to Posey Tube. Until the scope of the work has been defined, potentially significant construction emissions cannot be ruled out. However, this project will require separate environmental review by Caltrans prior to implementation.
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes reducing culvert and road drainage issues. The CARP does not define what the

implementation of this strategy would involve or indicate how many miles of roadway could be involved. It is assumed that this strategy would require operation of heavy construction equipment, but the extent is currently unknown. In the long term, Table 4-14 calls for the continued implementation of shoreline modifications to prevent flooding and inundation of key roadways and transit systems. The potential emissions of both of these strategies should be evaluated prior to commencing construction, once the scope of the work has been defined.

- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) calls for shoreline modifications along Crown Beach in the long term to prevent inundation from rising sea level. Similar to the strategies above, the potential emissions of this strategy should be evaluated prior to commencing construction, once the scope of the work has been defined.

Until the projects are more fully defined, it is assumed that construction of any of the adaptation strategies listed above would cause a **significant impact** on air quality. Implementation of the following Mitigation Measure AQ-1 would reduce the impacts to a less-than-significant level.

**Mitigation Measure AQ-1:**

Prior to construction of any new facilities or structures, the City shall implement the BAAQMD recommended *Basic Construction Mitigation Measures*, listed in Table 8-2 of the BAAQMD CEQA Air Quality Guidelines. These measures include the following:

- 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 the manufacturer's specifications. All equipment shall be checked by a

certified mechanic and determined to be running in proper condition prior to operation.

- A publicly visible sign shall be posted 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.

The City will require construction contractors to implement the Basic Construction Mitigation Measures listed above during construction of any project identified in the CARP that entails site disturbance and/or operation of diesel-fueled construction equipment. This will ensure that construction activities performed pursuant to the CARP have a less-than-significant impact on air quality.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Construction emissions associated with some CARP climate change adaptation strategies would result in the generation of air pollutants in the project area and in the immediate vicinity, and would incrementally add to cumulative emissions. With implementation of the mitigation identified for the project construction emissions identified in Section III-b, the cumulative impact from construction would also be reduced to a less-than-significant level.

As noted in BAAQMD's *CEQA Air Quality Guidelines*, air pollution is, by its very nature, largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. According to the Air Quality Guidelines, if a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. Conversely, if a project is determined to have less-than-significant project-level emissions, then it would also have a less-than-significant cumulative air quality impact. As discussed in Section III-b, implementation of the proposed CARP would not have any significant operational impacts on air quality. Therefore, because the project-level operational impacts would be less than significant, the project's cumulative impacts on air quality would also be ***less than significant***.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Expose sensitive receptors to substantial pollutant concentrations?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The GHG reduction actions and climate change adaptation strategies identified in the CARP would not have operational emissions that would have the potential to cause adverse health effects in sensitive receptors. The overall intent of the CARP is to reduce emissions of GHGs, and implementation of many of its actions and strategies will also contribute to reduced emissions of criteria air pollutants that can increase health risk in sensitive individuals. The CARP will thus have a beneficial impact related to health risk.

Large, long-term construction projects can potentially increase cancer risk or non-cancer (i.e., chronic or acute) health risk in sensitive receptors located in close proximity to the construction site, particularly in downwind locations. Sensitive receptors are people most susceptible to poor air quality, and include children, the elderly, the infirm, or others with medical conditions susceptible to poor air quality (e.g., asthma, bronchitis, chronic respiratory disease).

Operation of heavy-duty diesel-fueled construction equipment emits fine particulate matter with a diameter of 2.5 microns or less (PM<sub>2.5</sub>) and toxic air contaminants (TACs), the two emission types that pose the most significant threat to human health. Virtually any land use that attracts and/or generates vehicle trips emits TACs and PM<sub>2.5</sub>. However, it is only when substantial quantities of TACs are emitted that cancer or health risk can potentially rise to a level of significance. According to BAAQMD, more than 80 percent of the inhalation cancer risk from TACs in the Bay Area is from diesel engine emissions.<sup>7</sup> TACs are a set of airborne pollutants that may pose a present or potential hazard to human health, and are separated into carcinogens and non-carcinogens.<sup>8</sup> State and local regulatory programs are intended to limit exposure to TACs and the associated health risk. Both TACs and PM<sub>2.5</sub> are emitted by trucks, cars, construction equipment, and other mobile sources. They are also emitted by stationary sources that require permitting by the BAAQMD, which requires source controls.

The majority of construction work undertaken to implement CARP strategies would not have the potential to expose sensitive receptors to substantial pollutant concentrations, either because they would not be particularly large projects, would not entail long-term construction, would not be located in proximity to sensitive receptors, and/or because they would be located at shoreline locations where atmospheric dispersion would prevent the concentration of pollutants for any length of time.

The only CARP GHG reduction action with any potential to substantially increase health risk during construction would be Action T6, entailing construction of a new cross-bay BART tube. The only CARP climate change adaptation strategy with potential to cause a substantial increase

<sup>7</sup> Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, page 5-3, May 2017.

<sup>8</sup> Toxic air contaminants are a broad class of compounds known to cause morbidity or mortality. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., gasoline service stations, dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

in health risk during its construction would be the proposed construction of floodwalls at the exit from Webster Tube and entrance to Posey Tube. Implementation of these projects would require a separate, rigorous environmental review by BART and Caltrans, respectively, that is beyond the scope of this document.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Create objectionable odors affecting a substantial number of people?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Implementation of the GHG reduction actions and climate change adaptation strategies identified in the CARP would not have the potential to generate offensive operational odors. In cases where construction is called for, diesel-fueled equipment exhaust would generate odors that most people find unpleasant. The occurrence and severity of these odor impacts would depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of nearby receptors. Generally, odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion. The majority of CARP construction projects would occur in or in proximity to shoreline locations, where windy conditions are prevalent.

The BAAQMD’s significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. With respect to the proposed project, during the short-term construction of CARP projects, diesel-fueled equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people. With the City frequently exposed to westerly winds from San Pablo Bay, atmospheric dispersion would be likely to accelerate odor dissipation at many construction locations.

Construction-related odors would be emitted at any CARP construction site on a temporary and intermittent basis. It would only occur during phases of construction that require operation of heavy diesel-fueled equipment. These types of odors are common, and construction-generated odors are not typically treated as significant impacts. Because there would be no operational odors associated with CARP projects, implementation of the CARP would have a **less-than-significant impact** due to the generation of objectionable odors.

**IV. BIOLOGICAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Although Alameda is a built-out, urbanized community with little natural terrestrial habitat, its parks and landscaping provide habitat for a variety of wildlife species adapted to urban development. The City has approximately 19,500 street trees,<sup>9</sup> an unknown number of trees on private property, and an estimated 24,000 to 36,000 trees on public properties other than city streets.<sup>10</sup> The leafy green canopy of this urban forest provides food and shelter for a variety of animals, as do lower-growing shrubs and grasses, both those planted intentionally and those that occur naturally.

Special-status species (typically, those listed as rare, threatened, endangered, or as a candidate for such listing) that may utilize Alameda’s urban habitat include Alameda song sparrow (*Melospiza melodia pusillula*), merlin (*Falco columbarius*), peregrine falcon (*Falco peregrinus*), short-eared owl (*Asio flammeus*), and California burrowing owl (*Athene cunicularia*). All of these species except the owls may roost in trees and forage for food in the surrounding area. Short-eared owls construct their own nests by scraping out a bowl in the ground and lining it with grasses and downy feathers. Burrowing owls are ground-nesting raptors that generally use abandoned California ground squirrel (*Spermophilus beecheyi*) holes for their nesting burrows, but are also known to use pipes or other debris for nesting purposes. They are known historically to inhabit ground squirrel burrows on Bay Farm Island, and a burrowing owl colony was previously moved from its natural habitat in the Harbor Bay Isle area to a burrows constructed at the Municipal Golf Courses.<sup>11</sup>

The majority of terrestrial wildlife species present within Alameda are expected to be common urban species such as eastern gray squirrel (*Sciurus carolinensis*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), opossum (*Didelphimorphia*), black-tailed jackrabbit (*Lepus californicus*), and western fence lizard (*Sceloporus occidentalis*). However, the salt marsh wandering shrew (*Sorex vagrans halicoetes*) is a special-status species that was known to inhabit the Oakland Airport in 1950, and it is assumed that it still may be present. In addition, a mole which is known only to the Island of

<sup>9</sup> City of Alameda, Public Works Department, Street Trees, Accessed April 30, 2019 at: <https://www.alamedaca.gov/Departments/Public-Works/Street-Trees>.

<sup>10</sup> City of Alameda, Public Works Department, *Alameda Master Street Tree Plan*, February 2010.

<sup>11</sup> City of Alameda, General Plan, Open Space and Conservation Element, [undated].



Alameda and called, appropriately, the Alameda Island mole (*Scapanus latimanus parvus*) is listed by CDFW as a species of special concern. It is unknown where the mole is living at this time.<sup>12</sup>

More significantly, the Alameda shorelines provide aquatic and water-related habitat that supports numerous plant and animal species, including some special-status species. According to the Open Space and Conservation Element of the Alameda General Plan, California cordgrass (*Spartina foliosa*) is present in the Bayview Shoreline Preserve, and eelgrass (*Zostera marina*) grows in several locations off of Alameda and Bay Farm islands; both are of prime importance to the aquatic and wetlands ecosystems. Eelgrass is designated as essential fish habitat (EFH) by the National Marine Fisheries Service (NMFS) for various federally-managed fish species.

The endangered California clapper rail (*Rallus longirostris obsoletus*) is known to frequent cordgrass areas, including those within the Bayview Shoreline Preserve and in the nearby Arrowhead Marsh. The endangered least tern (*Sternula antillarum*) nests at Alameda Point and Oakland Airport, and forages for Pacific herring (*Clupea harengus*), which are found in the eelgrass beds.

Some of the CARP construction projects would require in-water construction work in the Bay waters surrounding Alameda, such as widening the shoreline, expanding levees and seawalls, and installing submerged aquatic vegetation. CARP construction activities could cause impacts to special-status species occurring in San Francisco Bay, the Oakland-Alameda Estuary, and the Tidal Canal, which spans the approximately 1.8-mile land bridge that historically connected Alameda (originally a peninsula) to the City of Oakland.

San Francisco Bay supports numerous aquatic habitats, biological communities, and a large variety of wildlife species, although the Bay's fish and wildlife populations have changed dramatically in the past 150 years, with loss of native species due to over-harvest, habitat loss and degradation, introduced species, pollutants, and the modification of freshwater flows. CARP-related improvements would occur only in shoreline and near-shore areas where the number of potentially affected species would be much smaller, but could include protected harbor seals (*Phoca vitulina richardii*), which utilize Alameda's Breakwater Island, adjacent to Seaplane Lagoon in Alameda Point, as a haul-out site, and could include California sea lions (*Zalophus californianus*), also protected by the Marine Mammal Protection Act.

A large number of California brown pelicans (*Pelecanus occidentalis californicus*) roost on Breakwater Island during late summer through fall. This is a State Fully Protected species that was removed from the federal and State lists of threatened and endangered species in 2009 due to recovery. The Caspian tern (*Sterna caspia*), a special-status species, is known to forage around the gap between the breakwaters, particularly in its tidal eddies, as are at least 25 other species of waterbirds.<sup>13</sup>

The Oakland-Alameda Estuary and Tidal Canal are hydrologically connected to the Central Bay of San Francisco Bay, which is a highly dynamic marine region due to strong tidal currents. The benthic substrate in the Central Bay is comprised of course to fine sediments and rocky outcrops. The dominant benthic species in the Central Bay is the clam *Macoma balthica*, particularly in the intertidal areas. Common sub-tidal species include the mollusks *Mya arenaria*, *Gemma*,

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<sup>12</sup> *Ibid.*

<sup>13</sup> City of Alameda, *Alameda Point Project Draft Environmental Impact Report*, SCH No. 2013012043, Section 4.E, Biological Resources, September 2013, (Final EIR certified February 4, 2014).

*Musculista senhousia*, and *Venerupis philipinarum*; the amphipods *Ampelisca abdita*, *Grandierella japonica*, and *Corophium* sp.; and the polychaetes *Streblospio benedicti*, *Glycinde* sp., and *Polydora* sp.

The Oakland Harbor, which was originally a tidal slough that was dredged in the mid- to late 1800s to create the Port of Oakland and associated shipping channel, is designated as Essential Fish Habitat by the National Marine Fisheries Service for five Evolutionary Significant Units (ESU) of salmonids: the endangered Sacramento winter-run chinook salmon ESU (*Oncorhynchus tshawytscha*), the threatened Central Valley spring-run chinook salmon ESU (*Oncorhynchus tshawytscha*), the threatened Central California Coast steelhead ESU (*Oncorhynchus mykiss*), the threatened Central Valley steelhead ESU (*Oncorhynchus mykiss*), and the Central Valley fall/late fall-run chinook salmon ESU (*Oncorhynchus tshawytscha*), a candidate species. While these species are reported as possibly occurring in small numbers in the Oakland Harbor during their migration seasons, they are not found in the Tidal Canal.<sup>14</sup>

Although many fish and other wildlife species would likely move away from construction disturbance associated with implementing CARP climate change adaptation strategies, there is still potential for special-status species to be adversely affected during construction activities, either directly or through habitat disturbance and modification. Direct impacts could include mortality, physical injury, or physiological stress, resulting from habitat loss, increased sedimentation and turbidity, increased exposure to organic and inorganic contaminants, and construction noise. Altering benthic habitat and associated faunal communities can result in the loss or reduction of habitat suitable for fish foraging, especially for special-status species including salmon, steelhead, green sturgeon, and groundfish (which include various species of rockfishes, flatfishes, sharks, and others).

The following CARP programs were identified that could potentially result in adverse impacts to special-status species during construction:

- **Adaptation planning for Crown Beach** (CARP Table 4-6) includes beach stabilization work in the short term and widening the shoreline in the medium term.
- **Adaptation planning for Eastshore Drive** (CARP Table 4-7) includes building higher shoreline barriers that can be further built up over time and augmenting mudflats with dredged sediment.
- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8) includes expanding existing levees and seawalls in the medium term to address future water levels.
- **Adaptation planning for Bay Farm Island Lagoon System 1 Outlet Gate and Seawall** (CARP Table 4-9) includes elevating the existing seawall in the short term to provide protection from storms and king tides.
- **Adaptation planning for Veteran's Court Seawall** (CARP Table 4-10) includes repairing or replacing and elevating the existing seawall. It also includes installing wave attenuation and erosion control features such as submerged aquatic vegetation.

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<sup>14</sup>U.S. Army Corps of Engineers, *Environmental Assessment: Oakland Inner Harbor Tidal Canal Surplus Property Divestiture, Alameda County, Fiscal Year 2016*, May 2016.

- **Adaptation planning for Bay Farm Island Touchdown and Towata Park** (CARP Table 4-11) includes repairing or replacing and elevating the existing shoreline protection.
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes establishing transit alternatives to buses, including ferries. The expansion of ferry service in Alameda and the establishment of a new ferry terminal on Seaplane Lagoon have already been subject to environmental review pursuant to CEQA, and no additional analysis or mitigation for this adaptation strategy is required. However, this strategy also includes continued implementation of shoreline modifications, which could adversely affect special-status species during construction.
- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) includes construction of improvements to the Bayview Outfall, and also calls for shoreline modifications along Crown Beach in the long term to prevent inundation from rising sea level.

With the exception of the expansion of ferry service (CARP Table 4-14), in-water construction of the projects listed above could cause a **potentially significant impact** on special-status species. Implementation of the following mitigation measure would reduce potential impacts to a less-than-significant level:

**Mitigation Measure BIO-1:** Prior to construction of any new facility or structure on submerged lands or that requires in-water work, the City shall retain the services of a qualified marine biologist to review the project plans and conduct a biological assessment of the project area. The biological assessment shall identify potential impacts to sensitive habitat(s) and/or special-status species and include mitigation measures sufficient to avoid the impacts or ensure that the impacts are less than significant. Implementation of the CARP project shall not proceed without implementation of the required biological mitigation measures, in accordance with the timing stipulated in the biological assessment for the project.

The potential for most land-based construction required for CARP actions and strategies to adversely affect special-status species would generally be fairly limited. However, construction of bike lanes or shoreline improvements could occur in proximity to trees that could include nesting birds that are protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Construction disturbance—including noise, vibration, and diesel exhaust emissions—during nesting season could result in the loss of eggs or nestlings by causing the abandonment of nests by the adult birds. CARP construction projects that could occur in proximity to trees and potentially result in disturbance of nesting birds would include the following:

- **Transportation Action T2: Build More Bikeways**, which calls for adding more bike lanes, including dedicated and protected bike lanes.
- **Adaptation planning for Crown Beach** (CARP Table 4-6) includes increasing road protection, which is assumed to require construction activities within and adjacent to public rights-of-way, including the operation of heavy-duty equipment and trucks.
- **Adaptation planning for Eastshore Drive** (CARP Table 4-7) includes building higher shoreline barriers that can be further built up over time.

- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8) includes expanding existing levees and seawalls.
- **Adaptation planning for Bay Farm Island Lagoon System 1 Outlet Gate and Seawall** (CARP Table 4-9) includes elevating the existing seawall.
- **Adaptation planning for Veteran’s Court Seawall** (CARP Table 4-10) includes repairing or replacing and elevating the existing seawall.
- **Adaptation planning for Bay Farm Island Touchdown and Towata Park** (CARP Table 4-11) includes repairing or replacing and elevating the existing shoreline protection.
- **Adaptation planning for SR260, Including Posey & Webster Tubes** (CARP Table 4-12) includes constructing floodwalls at the exit from the Webster Tube and entrance to Posey Tube. (As previously noted, this project will undergo separate environmental review by Caltrans prior to implementation.)
- **Adaptation planning for SR61/Doolittle Drive** (CARP Table 4-13) includes possible regrading of the model airplane field.
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes implementing shoreline modifications. (As previously noted, the expansion of ferry service in Alameda and the establishment of a new ferry terminal on Seaplane Lagoon have already been subject to environmental review pursuant to CEQA, and no additional analysis or mitigation for this adaptation strategy is required.)
- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) includes implementing shoreline modifications.

Any potential impacts would depend on the location, nature of the disturbance, and the bird species that might be affected. While the magnitude of this impact would likely be low, impacts to protected species cannot be ruled out. Until site specific assessments can be made, it is assumed that this would be a **significant impact**. Implementation of the following mitigation measure would reduce potential impacts to a less-than-significant level:

**Mitigation Measure BIO-2:** To the extent feasible, construction activities shall be scheduled to avoid the nesting season, which for most birds in Alameda County extends from February 1 through August 31. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. If nesting season cannot be avoided during construction, prior to construction of GHG Reduction Action T2 or any of the climate change adaptation strategies listed above, the City shall retain the services of a qualified wildlife or avian biologist to conduct a bird nesting survey of the proposed area of disturbance and within a 250-foot radius of the proposed area of disturbance. If conducted during the early part of the breeding season (January to April), the survey shall be conducted no more than 14 days prior to initiation of grading/construction activities, due to the higher probability that new nest construction could be initiated

during this time. If conducted during the late part of the breeding season (May to August), when the potential for new nest creation is much lower, the survey shall be performed no more than 30 days prior to initiation of these activities. If active nests are identified, a 250-foot fenced buffer (or an appropriate buffer zone determined in consultation with the California Department of Fish and Wildlife) shall be established around the nest tree and the site shall be protected until September 1<sup>st</sup> or until the young have fledged. A biological monitor shall be present during earth-moving activity near the buffer zone to make sure that grading does not enter the buffer area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** There is no riparian habitat in the areas where CARP improvements are proposed. However, the eelgrass and coastal marsh habitats located along portions of the Alameda shoreline are considered sensitive natural communities. Construction disturbance of these areas would have some potential to adversely affect these sensitive habitats. Although this would be a **potentially significant impact**, depending on the location and scope of a given CARP improvement project, implementation of Mitigation Measure BIO-1 would reduce potential impact to less than significant. This requirement would be applicable to the CARP projects identified in Mitigation Measure BIO-1.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The Alameda shoreline is part of the once-extensive system of wetlands that ringed San Francisco Bay. Although the majority of historic wetlands have been filled during development of the City, wetland areas remain along portions of the Alameda shoreline. The wetlands adjacent to Crown Beach at the Elsie D. Roemer Bird Sanctuary and proposed Bayview Shoreline Preserve are representative of historic tidal wetlands habitat. In-water construction

activities associated with CARP climate change adaptation strategies could potentially disturb, damage, or destroy native oyster beds, eelgrass beds, or other coastal wetland habitats.

The following CARP programs were identified that could potentially result in adverse impacts to protected wetlands during construction:

- **Adaptation planning for Crown Beach** (CARP Table 4-6) includes beach stabilization work in the short term and widening the shoreline in the medium term.
- **Adaptation planning for Eastshore Drive** (CARP Table 4-7) includes building higher shoreline barriers that can be further built up over time and augmenting mudflats with dredged sediment.
- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8) includes expanding existing levees and seawalls to address future water levels.
- **Adaptation planning for Bay Farm Island Lagoon System 1 Outlet Gate and Seawall** (CARP Table 4-9) includes elevating the existing seawall to provide protection from storms and king tides.
- **Adaptation planning for Veteran’s Court Seawall** (CARP Table 4-10) includes repairing or replacing and elevating the existing seawall. It also includes installing wave attenuation and erosion control features such as submerged aquatic vegetation.
- **Adaptation planning for Bay Farm Island Touchdown and Towata Park** (CARP Table 4-11) includes repairing or replacing and elevating the existing shoreline protection.
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes implementing shoreline modifications to prevent flooding. (As previously noted, the expansion of ferry service in Alameda and the establishment of a new ferry terminal on Seaplane Lagoon have already been subject to environmental review pursuant to CEQA, and no additional analysis or mitigation for this adaptation strategy is required.)
- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) includes construction of improvements to the Bayview Outfall, and also calls for shoreline modifications along Crown Beach in the long term to prevent inundation from rising sea level.

In-water construction activities associated with CARP climate change adaptation strategies listed above could cause ***potentially significant impacts*** to wetlands that may occur in or adjacent to a project area. Implementation of the following mitigation measure would reduce potential impacts to a less-than-significant level:

**Mitigation Measure BIO-3:** Prior to construction of any new facilities or structures in or in close proximity to wetlands, the City shall retain the services of a qualified wetland biologist to review the project plans and conduct a biological assessment of the project area. The biological assessment shall identify potential impacts to protected wetland habitats and determine any applicable permit requirements from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, San Francisco Bay Regional Water Quality Control Board,

and/or the San Francisco Bay Conservation and Development Commission. The biological assessment shall include mitigation measures sufficient to avoid identified impacts to wetlands or ensure that the impacts are less than significant. Implementation of the CARP project shall not proceed without implementation of the required biological mitigation measures, in accordance with the timing stipulated in the biological assessment for the project. Any required regulatory permits shall be obtained prior to commencing construction.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: The greatest potential impact to migratory wildlife that could occur as a result of CARP implementation would be from new and expanded ferry service. As previously noted, the expansion of ferry service in Alameda and the establishment of a new ferry terminal on Seaplane Lagoon have already been subject to environmental review pursuant to CEQA, and no additional analysis or mitigation for this adaptation strategy (CARP Table 4-14) is required.

In-water construction of CARP shoreline improvements such as constructing or raising levees and seawalls has the potential to interfere with the movement or migratory corridors of, or impede the use of nursery sites by the following migratory species: harbor seals, Chinook salmon, Coho salmon, Steelhead trout, green sturgeon, Pacific herring, and a number of Fishery Management Plan-managed fish species.<sup>15</sup>

The following CARP programs were identified that could potentially result in adverse impacts to migratory fish or wildlife species during construction:

- **Adaptation planning for Crown Beach** (CARP Table 4-6) includes beach stabilization work in the short term and widening the shoreline in the medium term.
- **Adaptation planning for Eastshore Drive** (CARP Table 4-7) includes building higher shoreline barriers that can be further built up over time and augmenting mudflats with dredged sediment.
- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8) includes expanding existing levees and seawalls to address future water levels.

<sup>15</sup>City of Alameda, *Alameda Point Project Draft Environmental Impact Report*, SCH No. 2013012043, Section 4.E, Biological Resources, September 2013, (Final EIR certified February 4, 2014).

- **Adaptation planning for Bay Farm Island Lagoon System 1 Outlet Gate and Seawall** (CARP Table 4-9) includes elevating the existing seawall to provide protection from storms and king tides.
- **Adaptation planning for Veteran’s Court Seawall** (CARP Table 4-10) includes repairing or replacing and elevating the existing seawall. It also includes installing wave attenuation and erosion control features such as submerged aquatic vegetation.
- **Adaptation planning for Bay Farm Island Touchdown and Towata Park** (CARP Table 4-11) includes repairing or replacing and elevating the existing shoreline protection.
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes implementing shoreline modifications to prevent flooding.
- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) includes construction of improvements to the Bayview Outfall, and also calls for shoreline modifications along Crown Beach in the long term to prevent inundation from rising sea level.

In-water construction activities associated with CARP climate change adaptation strategies listed above could cause **potentially significant impacts** to migratory fish or wildlife species that may occur in or adjacent to a project area. Implementation of Mitigation Measure BIO-1 would reduce potential impacts to a less-than-significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Implementation of CARP actions and strategies is not anticipated to adversely affect trees. In most if not all locations where improvements are planned, no trees are present within the work zones. The planting of new trees called for in GHG Reduction Action S2 and Climate Change Adaptation Strategies for Heat and Drought (CARP Table 4-25) and Wildfire Smoke (CARP Table 4-26) would require written permission from the Public Works Director for trees planted within public rights-of-way. Similarly, in the unlikely event that any trimming or removal of trees from the public right-of-way were required for implementation of CARP actions and strategies, the City or project sponsor would be required to obtain written permission from the Public Works Director prior to removal, in accordance with Section 23-3.2 of the City’s Municipal Code.

The Open Space and Conservation Element of the Alameda General Plan contains a variety of policies protective of biological resources. A few examples include:

- 5.1.a Preserve and enhance all wetlands and water-related habitat.



- 5.1.b Protect Open Space-Habitat areas, including sensitive submerged tidelands areas (mudflats) and eelgrass beds, from intrusions by motorized recreational craft, including jet skis and hovercraft.
- 5.1.c Continue to prohibit filling of water-related habitat except in those limited cases in which a strong public need clearly outweighs the habitat preservation need, and where approval is granted by the appropriate agencies.
- 5.1.bb Require a biological assessment of any proposed project site where species or the habitat of species defined as sensitive or special status by the California Department of Fish and Game or the U.S. Fish and Wildlife Service might be present.

Implementation of Mitigation Measures BIO-1 through BIO-3 would ensure that construction of CARP-related improvements would not conflict with local policies or ordinances protecting biological resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: While there is no adopted terrestrial habitat conservation plan or natural community conservation plan applicable to the City of Alameda, there is a Comprehensive Conservation and Management Plan (CCMP) adopted in 2007 by the San Francisco Estuary Partnership (SFEP) that is intended to restore and maintain water quality and natural resources of the San Francisco Bay-Delta Estuary, including its chemical, physical, and biological integrity. The SFEP is a federal-State-local partnership established in 1987 under mandate of the federal Clean Water Act. The 2007 CCMP, prepared collaboratively by representatives from government agencies and private and community groups in the twelve-county Bay-Delta region, updates the original CCMP prepared in 1993.

As discussed in Sections IV-a through IV-d, above, construction of shoreline and in-water projects included in the CARP could result in potentially significant impacts to biological resources, which could conflict with applicable policies and actions in the CCMP. This would be a **potentially significant impact**. However, with implementation of Mitigation Measures BIO-1 through BIO-3, construction activities undertaken under the CARP would be implemented in a manner that would maintain consistency with the CCMP, and this potential impact would be reduce to less than significant.

**V. CULTURAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Physical improvements identified in the CARP are primarily upgrades and improvements to existing facilities and some in-water construction. Examples of improvements to existing facilities include flood-proofing pump stations and pumping equipment (CARP Table 4-12), expanding flood-proofing at bus stops (CARP Table 4-14), and installing bus stop shelters (CARP Table 4-14). Examples of in-water construction include installing new flap gates at the Bayview outfall (CARP Table 4-16), implementing shoreline modifications along Crown Beach (CARP Table 4-6), installing submerged aquatic vegetation (CARP Table 4-10), expanding existing levees and seawalls (CARP Table 4-8), and widening the shoreline (CARP Table 4-6). These activities are not expected to affect historic resources. GHG Reduction Action T2 calls for building more bike lanes in the City; this new construction is also not expected to affect historic resources. However, while highly unlikely, the presence of previously unknown or undiscovered historic resources that could lie buried in the subsurface of one or more locations where CARP improvements are planned cannot be completely ruled out. Were such resources to be present, disturbance of the subsurface during construction could damage or destroy the resource(s), which would be a **potentially significant impact** on historic resources. Implementation of Mitigation Measures CR-1 through CR-3, below, would reduce the impact to a less-than-significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The San Francisco Bay area was occupied by Native Americans as far back as 3,000 to 4,000 years ago. Recorded archaeological sites in Alameda and the surrounding region indicate that at the time of initial Euroamerican incursion into the project area (circa 1770), the region was occupied by Native Americans who spoke Chochenyo. These people were a subset of the Penutian-speaking Ohlone (referred to as “Costanoans” by the Spanish) residing in northern California at the time the Spanish arrived in the region. The Ohlone territory encompassed much of the San Francisco Bay area and extended eastward to the Central Valley and southward through Monterey Bay. Previously undiscovered Native American resources are often encountered on the Bay margins and in proximity to historic water sources, among other places.

Implementation of the CARP would require construction activity for some of the GHG reduction actions and climate change adaptation strategies. The majority of CARP construction activities would require little to no subsurface disturbance with potential to disturb or damage unrecorded archaeological resources. However, where subsurface disturbance would occur, possible impacts to archaeological resources cannot be ruled out.

The planting of new trees called for in GHG Reduction Action S2 and Climate Change Adaptation Strategies for Heat and Drought (CARP Table 4-25) and Wildfire Smoke (CARP Table 4-26) would require digging holes sufficiently deep and wide to accommodate the root balls of the trees. The areas of disturbance would be quite limited for any given tree, and performing a cultural resources assessment for each tree location would not be practical. If the City advises tree installers to be alert for buried cultural artifacts when they are excavating the holes for the trees and identifies steps to take if anything is encountered during tree planting, potential impacts to cultural resources can be minimized. Accordingly, this is presumed to be a potentially significant impact, which would be reduced to a less-than-significant level with implementation of the following mitigation measure:

**Mitigation Measure CR-1:** Prior to planting new trees as called for in GHG Reduction Action S2 and Climate Change Adaptation Strategies for Heat and Drought (CARP Table 4-25) and Wildfire Smoke (CARP Table 4-26), City staff shall advise the work crew of the potential for encountering cultural resources, such as modified stone or shaped rock fragments (including arrow and spear heads); man-made objects; fire-charred soil, stone, or artifacts; bone fragments; or other objects of questionable provenance or era. Workers shall be notified that if they encounter any such items, they are to stop work at the site of the find and contact City staff, who shall retain the services of a qualified archaeological consultant to identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Any mitigation recommendations of the archaeologist shall be implemented prior to resuming the tree planting.

Other CARP actions and strategies would require construction-related ground disturbance of larger areas, which would increase the potential for encountering and damaging buried cultural resources. The following CARP programs were identified that could potentially result in adverse impacts to buried cultural resources during construction:

- **Transportation Action T2: Build More Bikeways**, which calls for adding more bike lanes and making pedestrian/bikeway improvements that increase safety and make it easier for people to use.
- **Adaptation planning for Veteran's Court Seawall** (CARP Table 4-10) includes regrading and elevating the roadway.
- **Adaptation planning for SR260, Including Posey & Webster Tubes** (CARP Table 4-12) includes constructing floodwalls at the exit from the Webster Tube and entrance to Posey Tube. (As previously noted, this project will undergo separate environmental review by Caltrans prior to implementation.)

- **Adaptation planning for SR61/Doolittle Drive** (CARP Table 4-13) includes possible regrading of the model airplane field.
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes reducing culvert and road drainage issues. It is currently unknown whether and to what extent subsurface disturbance would be required for this strategy.
- **Adaptation planning for Utilities** (CARP Table 4-24) includes replacing iron sewer and stormwater pipes with high-density polyethylene or other non-corrosive materials.

Excavation or other surface/subsurface disturbance undertaken during the development of the projects listed above could encounter and damage or destroy previously unknown archaeological resources that could be present in the subsurface. Any disturbance to such resources, were they to exist, could result in a **potentially significant, adverse impact** on archaeological resources. Implementation of the following standard CEQA mitigation measures, required by Section 15064.5 of the *CEQA Guidelines*, would reduce the potential impact to a less-than-significant level:

**Mitigation Measure CR-2:** If any cultural artifacts are encountered during site grading or other project construction activities, all ground disturbance within 100 feet of the find shall be halted until the City of Alameda is notified, and a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). (Construction personnel shall not collect any cultural resources.) The results of any additional archaeological effort required through the implementation of Mitigation Measures CR-1 or CR-2 shall be presented in a professional-quality report, to be submitted to the City of Alameda Planning Division and the Northwest Information Center at Sonoma State University in Rohnert Park.

**Mitigation Measure CR-3:** In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Office of the Alameda County Coroner and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner's Office will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD in consultation with the archaeological consultant and the City, will advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Paleontological resources are the fossilized remains of vertebrate or invertebrate organisms from prehistoric environments found in geologic strata. They are valued for the information they yield about the history of the earth and its past ecological settings. They are most typically embedded in sedimentary rock foundations, and may be encountered in surface rock outcroppings or in the subsurface during site grading.

Based on a geologic map of the Oakland Metropolitan Area that encompasses the City of Alameda, much of the City of Alameda, including all of Alameda Point and the northwestern portion of the City as well as its southern shoreline, is underlain by artificial fill. The central and eastern part of the City is underlain by Quaternary surficial deposits of probable Pleistocene to Holocene age. Such deposits that have the potential to include significant paleontological resources, and paleontological resources have previously been encountered within the City, including fossils of *Bison* (bison), *Arctodus* (short-faced bear), *Glossotherium* (ground sloth), *Camelops* (camel), and *Mammuthus* (mammoth).<sup>16</sup>

Any CARP project requiring subsurface disturbance would have some potential for encountering paleontological resources during construction, though the potential would be particularly low in shoreline areas and at Alameda Point. The following CARP programs would require subsurface disturbance, and therefore could potentially result in adverse impacts to buried cultural resources during construction:

- **Transportation Action T2: Build More Bikeways**, which calls for adding more bike lanes and making pedestrian/bikeway improvements that increase safety and make it easier for people to use.
- **Sequestration Action S2: Further Develop Urban Forest**, which calls for planting 1,500 new trees in Alameda.
- **Adaptation planning for Veteran’s Court Seawall** (CARP Table 4-10) includes regrading and elevating the roadway.
- **Adaptation planning for SR260, Including Posey & Webster Tubes** (CARP Table 4-12) includes constructing floodwalls at the exit from the Webster Tube and entrance to Posey Tube. (As previously noted, this project will undergo separate environmental review by Caltrans prior to implementation.)
- **Adaptation planning for SR61/Doolittle Drive** (CARP Table 4-13) includes possible regrading of the model airplane field.

<sup>16</sup> Kenneth L. Finger, PhD, *Paleontological Records Search: Federal Center Reuse Project (FCS 5092.0001), Alameda, Alameda County, California*, April 3, 2018.

- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes reducing culvert and road drainage issues. It is currently unknown whether and to what extent subsurface disturbance would be required for this strategy.
- **Adaptation planning for Utilities** (CARP Table 4-24) includes replacing iron sewer and stormwater pipes with high-density polyethylene or other non-corrosive materials.
- **Adaptation planning for Heat and Drought** (CARP Table 4-25) calls for planting 1,500 new trees in Alameda, targeting heavily paved areas prone to a localized “heat island” effect.
- **Adaptation planning for Wildfire Smoke** (CARP Table 4-26) supports citywide tree planting efforts.

If any unique paleontological resources are encountered during implementation of the CARP programs listed above, they could be damaged, destroyed, or lost during subsurface disturbance of the project sites during project construction. This would be a **potentially significant impact**. Implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level:

**Mitigation Measure CR-4:** If any paleontological resources—such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions—are encountered during site grading or other construction activities, all ground disturbance within 100 feet of the find shall be halted until the services of a qualified paleontologist can be retained to identify and evaluate the scientific value of the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Significant paleontological resources shall be salvaged and deposited in an accredited and permanent scientific institution, such as the University of California Museum of Paleontology (UCMP).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Disturb any human remains, including those interred outside of formal cemeteries?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: See Section V(b), above.

**VI. ENERGY** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The purpose of the proposed CARP is to reduce greenhouse gas (GHG), emissions within the City and region to help California achieve its target GHG reduction goals. Operations associated with all CARP actions and strategies would either have no impact related to GHG emissions or would have a beneficial effect by lowering GHG emissions in comparison with business as usual. Because energy consumption is directly tied to the emissions of GHGs, and in fact, is the source of 80 percent of GHG emissions in the State, these reductions in GHGs would reflect and/or be a result of reduced consumption of energy resources, such as electricity and petroleum-based fuels.<sup>17</sup>

Although CARP actions and adaptation strategies that entail construction of new infrastructure would consume energy resources, including gasoline, diesel fuel, and electricity during project construction, this consumption would be temporary and of relatively short duration, and would cease once project construction is completed. This minor increase in fuel consumption would not require development of new petroleum supplies or construction of new production or distribution facilities. The construction contractors would be required to minimize equipment idling time and maintain equipment in proper operating condition, which would ensure that fuel powering the equipment would not be used in an inefficient or wasteful manner. Therefore, the consumption of fuel and other energy during construction of CARP projects would have a ***less-than-significant impact*** on energy resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The State’s energy system includes energy extraction, transport, conversion (such as combusting natural gas in power plants to generate electricity or producing gasoline and diesel from crude oil in refineries), and consumption for services (such as electricity for lighting, natural gas use in homes and buildings for space and water heating, and gasoline and diesel to fuel cars and trucks), as well as electricity from out-of-State plants serving California. Because energy

<sup>17</sup> California Energy Commission, *2016 IEPR Update: Integrated Energy Policy Report*, Publication No. CEC-100-2016-003-CMF, Chapter 1: Environmental Performance of the Electricity Generation System, 2016.

production and consumption comprises 80 percent of GHG emissions in the State, implementation of the GHG plans and policies discussed below in Section VIII will indirectly improve energy efficiency and increase development of renewable energy sources.

In addition to the GHG-focused plans, California's first Renewable Portfolio Standard (RPS) was established in 2002 under Senate Bill 1078 with the goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent by 2017. The RPS was accelerated in 2006 under Senate Bill 107 by requiring that 20 percent of electricity sales be served by renewable energy resources by 2010. The RPS was subsequently increased to 33 percent by 2020 with the passage of Senate Bill X1-2.

California's Emission Performance Standard (EPS), created in 2006 by Senate Bill 1368, established a goal of encouraging California utilities to divest from high GHG-emitting power plants. The EPS prohibits California utilities from making new long-term commitments (five years or more) to high GHG-emitting baseload power plants—plants that emit more than 1,100 pounds of carbon dioxide (CO<sub>2</sub>) per megawatt-hour.

The *2016 Integrated Energy Policy Report Update* (IEPR) presents the results of the California Energy Commission's assessments of a variety of energy issues facing California and provides recommendations for actions to ensure that the State is able to meet its climate, energy, air quality, and other environmental goals while maintaining reliability of its energy systems and controlling costs.<sup>18</sup> It includes numerous recommendations for improving the environmental performance of the electricity generation system, for improving energy reliability in Southern California, for adapting to climate change in the continued development of the State's energy systems, for continuing to develop utility integrated resource plans that demonstrate long-term GHG reductions, for engaging in Statewide energy planning and permitting coordination, and much more.

Implementing the GHG reduction actions and climate change adaptation strategies presented in the proposed CARP would help the State meet its goals for renewable energy and would not conflict with its plans for increasing renewable energy and energy efficiency. There would be **no impact** related to conflicts with these plans.

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<sup>18</sup> *Ibid.*



**VII. GEOLOGY AND SOILS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</i>				
i) <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? Refer to Division of Mines and Geology Special Publication 42.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** There are no known active earthquakes fault located in the City of Alameda. The nearest seismically active fault is the Hayward-Rodgers Creek fault, which is roughly 4 miles northeast of the City. There is therefore no potential for fault rupture at the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) <i>Strong seismic ground shaking?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Aside from development of a new cross-Bay BART tube, improvements proposed as part of the CARP would not include development of new habitable structures. As noted in the project description, construction of a new cross-bay BART tube with new station stops in Alameda is one of the GHG reduction actions identified in the CARP, but this project will require a separate, extensive environmental review that is beyond the scope of this document. While any development within the San Francisco Bay Area, which is one of the most seismically active regions in the United States, may be exposed to strong seismic ground shaking during an earthquake, implementation of the proposed CARP actions and adaptation strategies would not increase the potential for people or structures to be exposed to seismic ground shaking. CARP programs requiring construction of new infrastructure would be required to meet engineering and structural requirements and comply with all applicable building codes and seismic requirements, which would ensure that these new or expanded facilities would not expose people or structures to elevated risks from seismic ground shaking. This would therefore be a ***less-than-significant impact***.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As stated in the previous subsection, CARP programs requiring construction of new infrastructure would be required to meet engineering and structural requirements and comply with all applicable building codes and seismic requirements, which would ensure that these new or expanded facilities would not expose people or structures to elevated risks from seismic-related ground failure, including liquefaction. Given these requirements, potential exposure of the project to seismic-related ground failure would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The City of Alameda is predominantly level throughout the City, with very limited topographic variation and virtually no steep slopes. Consequently, the potential for landslides is low to non-existent at all locations where CARP-related improvements could be built. For CARP improvements where excavation could be required, such as constructing floodwalls where the Webster and Posey tubes daylight (CARP Table 4-12), the construction would be required to comply with the site preparation, foundation, and structural design requirements of the 2016 California Building Code. (Additionally, that project will undergo separate environmental review by Caltrans prior to implementation.) With compliance with these requirements, these improvements would not be subject to landslide; there would be **no impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Any construction project that exposes surface soils creates a potential for erosion from wind and stormwater runoff. The potential for erosion increases on large, steep, or windy sites; it also increases significantly during rainstorms. Site grading would be required for construction of new bikeways (Action T2), regrading of Veteran's Court (CARP Table 4-10), construction of floodwalls at the exit from Webster Tube and entrance to Posey Tube (CARP Table 4-12), regrading of the model airplane field (CARP Table 4-13), and possibly other improvements proposed in the CARP. Projects disturbing more than 1 acre of land would be subject to the Clean Water Act requirements described in Section X-a. (The project at the Webster/Posey tubes will be subject to separate environmental review by Caltrans prior to implementation.)

For smaller projects, the Alameda Public Works Department issues a checklist and information about erosion and stormwater controls that are required pursuant to Alameda Municipal Code Section 18-22.1, which prohibits non-stormwater discharges to the City’s storm sewer system, Section 18-22.8, which requires construction contractors to provide filters at catch basins and establish other controls to minimize the discharge of pollutants, and Section 18.22-10, which requires implementation of best management practices (BMPs) to minimize a project’s contribution to stormwater pollution. These requirements pertain equally to City-sponsored projects as to private development projects.<sup>19</sup> Public Works staff make field inspections of small construction projects both in response to requests or complaints, and as follow-up.<sup>20</sup> Compliance with these requirements would ensure that implementation of CARP improvements would have a **less-than-significant impact** due to soil erosion.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** While there is no appreciable potential for landslide in the City of Alameda, there is potential for liquefaction, lateral spreading, and other types of seismically-induced ground failure. As previously noted, CARP programs requiring construction of new infrastructure would be required to meet engineering and structural requirements and comply with all applicable building codes and seismic requirements, which would ensure that these new or expanded facilities would not be exposed to unstable ground that could result in structural failure. Furthermore, no habitable structures would be developed pursuant to the CARP. The majority of the improvements would consist of new or raised levees and seawalls, and would also include new bike paths. Structural failure of these types of facilities, though highly unlikely, would not endanger people. This would therefore be a **less-than-significant impact**.

<sup>19</sup> Jim Barse, CSM, Clean Water Program Specialist, Alameda Public Works Department, personal communication, May 14, 2019.

<sup>20</sup> Marc Bautista, Program Specialist II, Environmental Services Division, Alameda Public Works Department, personal communication, May 22, 2019.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Because CARP projects would be implemented at many different locations throughout the City, it is currently unknown whether any of the improvements would be developed on a site underlain by expansive soils. Individual projects would be required to comply with the site preparation, foundation, and structural design requirements of the 2016 California Building Code, including provisions for expansive soils. With compliance with these requirements, these improvements would not be subject to structural failure due to expansive soils. This would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** No CARP-related improvements would require wastewater disposal.

**VIII. GREENHOUSE GAS EMISSIONS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The purpose of the proposed CARP is to reduce GHG emissions within the City and region to help California achieve its target GHG reduction goals. The CARP includes a variety of GHG reduction actions for this purpose, such as building more bikeways, encouraging telecommuting, banning gas-powered leaf blowers, promoting electric vehicle ownership, electrifying the City’s light-duty vehicle fleet, and more. Operations associated with all CARP actions and strategies would either have no impact related to GHG emissions or would have a beneficial effect by lowering GHG emissions in comparison with business as usual.

Construction of some CARP-related improvements would require the operation of heavy-duty construction equipment and trucks, which would result in increased GHG emissions on a short-term, temporary basis. Construction of the majority of these projects would not generate substantial quantities of GHGs due to their limited scope.

Because the Bay Area Air Quality Management District (BAAQMD) has not established separate thresholds of significance for construction-related emissions of GHGs, the BAAQMD screening criteria for construction-related emissions of criteria air pollutants previously discussed in Section III-b are referenced for comparison purposes. The representative examples cited in Section III-b demonstrated that only very large construction projects had potential to have significant emissions of criteria air pollutants. However, the operational GHG screening criteria for most land uses are about 15 to 18 percent of the operational criteria pollutant screening criteria for the same land uses, meaning that a significantly lower threshold applies to GHGs than to criteria air pollutants when it comes to operational emissions.

This same relationship is assumed to apply to construction emissions, so hypothetical construction GHG screening criteria that are an average of 17 percent of the construction-related criteria pollutant screening criteria established by BAAQMD have been assumed for purposes of this discussion. Using the same land use examples previously cited in Section III-b, this results in hypothetical construction GHG screening thresholds of 19 units of single-family residential homes, 94 hotel rooms, and 44,030-square-foot warehouses. These are still fairly large construction projects when compared to most of the CARP actions and strategies.

Therefore, it is assumed that the same construction projects identified in Section III-b with some potential to result in a significant construction-related air quality impact could also result in a significant construction-related GHG impact. No GHG reduction actions identified in the CARP would have potential to result in a significant GHG impact during construction. The following CARP climate change adaptation strategies were identified that could potentially generate significant emissions of GHGs during construction:

- **Adaptation planning for Crown Beach** (CARP Table 4-6) includes increasing dune management, beach stabilization, and road protection in the short term and widening the shoreline in the medium term.
- **Adaptation planning for Eastshore Drive** (CARP Table 4-7) includes building higher flood barriers that can be further built up over time and augmenting mudflats with dredged sediment.
- **Adaptation planning for Shoreline near Webster and Posey Tubes** (CARP Table 4-8) includes expanding existing levees and seawalls to address future water levels.
- **Adaptation planning for SR260, Including Webster and Posey Tubes** (CARP Table 4-12) includes constructing floodwalls at the exit from Webster Tube and entrance to Posey Tube. (As previously noted, this project will undergo separate environmental review by Caltrans prior to implementation.)
- **Adaptation planning for Critical and High-Use Roadways** (CARP Table 4-14) includes reducing culvert and road drainage issues.
- **Adaptation planning for Bayview Weir and Outfall** (CARP Table 4-16) calls for shoreline modifications along Crown Beach in the long term to prevent inundation from rising sea level.

See Section III-b for additional discussion about the potential for construction of these projects to generate substantial quantities of pollutants. Until the projects are more fully defined, it is assumed that construction of any of the adaptation strategies listed above would cause a **significant impact** due to emissions of GHGs. Implementation of the following Mitigation Measure GHG-1 would reduce the impacts to a less-than-significant level.

**Mitigation Measure GHG-1:** Prior to construction of major new seawalls, bulkheads, or other new sea level rise mitigation, the City shall model GHG emissions that would be generated by the construction project in question and recommend appropriate mitigation measures for any impacts deemed to be significant. If the analysis identifies a significant GHG impact, the City shall implement the identified mitigation measure(s) during project construction to ensure that air quality impacts remain less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** There are a variety of Statewide plans, policies, and regulations that have been adopted since 2002 for the purpose of reducing GHG emissions, as well as the City’s previous Climate Action Plan adopted in 2008. California passed landmark climate change legislation with Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, which requires Statewide GHG emissions to be reduced to 1990 levels by 2020. This goal was expanded upon by former Governor Arnold Schwarzenegger’s issuance in 2005 of Executive Order S-3-05, which also set a target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

AB 32 was extended in September 2016 by Senate Bill (SB) 32, establishing an expanded goal to achieve reductions in GHGs of 40 percent below 1990 levels by 2030. This codified the same goal previously issued by former Governor Edmund G. Brown with Executive Order B-30-15. The new plan outlined in SB 32 involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries. The California Air Resources Board’s (CARB’s) *2017 Climate Change Scoping Plan Update* is designed to accomplish this goal.<sup>21</sup>

The proposed CARP serves as an update to the City of Alameda’s 2008 *Local Action Plan for Climate Protection*, which set a goal of reducing the City’s GHG emissions to 25 percent below 2005 levels by 2020. Since the City adopted this plan, Alameda has reduced its GHG emissions by 20 percent, improved its public outreach during poor air quality events, and initiated a dune restoration and shoreline protection project at Encinal Beach, among other actions.

The CARP builds on the accomplishments achieved through implementation of the *Local Action Plan for Climate Protection*. It establishes a goal of reducing GHG emissions to 50 percent below

<sup>21</sup> California Air Resource Board, *2017 Climate Change Scoping Plan*, November 2017.

2005 levels by 2030 and 80 percent below 2005 levels by 2050. Alameda will achieve this goal by completing current City actions and implementing new actions focused on transportation, building management, waste management, and carbon sequestration. The CARP is intended to simultaneously ensure that the community is well prepared for the impacts of climate change, and includes a wide range of adaptation strategies for this purpose.

The CARP aligns with the State policies described above as well as regional and County policies. Implementation of the actions and strategies proposed in the CARP is expected to bring Alameda’s per-capita emissions down to approximately 2.0 MTCO<sub>2e</sub>, and the City is looking for ways to reach net zero emissions as quickly as possible. Therefore, the CARP would have a net benefit from reduced GHG emissions, and would not conflict any plans, policies, or regulations that have been adopted for the purpose or reducing GHG emissions; there would be **no impact**.

**IX. HAZARDS AND HAZARDOUS MATERIALS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: None of the CARP strategies would involve the routine transport, use, or disposal of hazardous materials. While construction activities associated with CARP implementation could entail use of hazardous materials for equipment operation and maintenance, such as motor oil, transmission fluid, or solvents, such use would not be in quantities large enough to pose an environmental hazard, nor would it constitute routine, ongoing use. Similarly, small containerized quantities of hazardous materials could be employed for some CARP-related improvements, such as installing new pump stations. Such controlled and limited use would not constitute a significant threat to the environment. This would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: None of the CARP GHG reduction actions or climate change adaptation strategies would have the potential to release hazardous materials into the environment, nor would there be such a risk during the majority of the CARP-related construction activities. While the risk is

expected to be low, there is some potential for exposure to hazardous materials during construction of the following CARP strategy:

- **Adaptation planning for Utilities** (CARP Table 4-24) includes replacing iron sewer and stormwater pipes with high-density polyethylene or other non-corrosive materials. During trenching or excavation to access old iron pipes targeted for replacement, there is some potential for exposure of construction workers to contaminated soil. Contaminated soil conditions could exist where pipe alignments traverse areas where a prior release occurred—such as from a leaking underground gasoline storage tank—that was never remediated.

The potential for exposure to contaminated soil during underground pipe replacement activities is likely quite low because in most cases these pipes are expected to be at relatively shallow depths of 2 to 6 feet below the ground surface, whereas contamination from leaking underground storage tanks (LUSTs) is typically at deeper levels. While surface soil contamination can occur, there are often surface indicators of such contamination that lead to cleanup and remediation activities. Despite the low probability for workers to be exposed to contaminated soil during pipe replacement activities, if such exposure were to occur, it could pose a health risk to the affected workers. This would be a **potentially significant impact**. Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

**Mitigation Measure HM-1:** Prior to any construction activity related to the replacement of underground of sewer or stormwater pipes as part of the City's climate change adaptation action for utilities, the City shall inform the construction contractor of the potential for workers to encounter contaminated soil during the work. The contractor shall be required to direct workers to be alert for odors or soil staining that might indicate contamination and, in the event such signs are observed, the workers shall stop work and inform the construction foreman, who shall notify the City immediately (same day).

If indicators of soil contamination are encountered during pipe replacement work, the City shall retain the services of a Registered Environmental Assessor (REA) or other qualified professional to conduct sampling and laboratory analysis of soil collected from the site and perform a Phase II Environmental Site Assessment (ESA) of the work site. The Phase II ESA shall contain an assessment of the hazards relative to applicable regulatory thresholds and shall include any necessary remediation requirements for any contaminants that exceed regulatory thresholds. Pipeline replacement work shall not resume until subsequent testing confirms that the site has been cleaned up to safe levels.



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** None of the CARP actions or adaptation measures would emit hazardous emissions, handle hazardous materials, or generate hazardous waste. There would be no impact on schools related to hazardous materials as a result of CARP implementation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 actually consists of several lists, including:

- A list of hazardous waste sites compiled by the California Department of Toxic Substances Control (DTSC);
- A list of contaminated water wells compiled by the California Department of Health Services (DHS) (subsequently reorganized into the California Department of Health Care Services and the California Department of Public Health);
- A list of leaking underground storage tank sites and solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the State Water Resources Control Board (SWRCB); and
- A list of solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the Local Enforcement Agency (LEA). These lists are consolidated by the Department of Resources Recycling and Recovery (CalRecycle).

Each of these lists must be updated at least annually, and must be submitted to the Secretary for Environmental Protection, the head of the California Environmental Protection Agency (CalEPA). DTSC maintains the EnviroStor database for purposes of complying with Section 65962.5, while the SWRCB maintains the GeoTracker database. Both of these databases were consulted during this environmental review. No active hazardous materials release sites were identified within

1,000 feet of the sites of proposed improvements identified in the CARP on the GeoTracker database.<sup>22</sup>

The EnviroStor database shows two cleanup sites located within 1,000 feet of the proposed floodwalls where the Webster and Posey Tubes daylight in Alameda near Marina Village Parkway.<sup>23</sup> The Target store parcel in the Alameda Landing shopping center, at 2700 5<sup>th</sup> Street, is listed as an active Voluntary Cleanup site. This site was previously occupied by the U.S. Navy's Fleet and Industrial Supply Center. Former activities at this facility resulted in contamination of the site soils with polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons, polychlorinated biphenyls (PCBs), metals, pesticides, and volatile organic compounds (VOCs) in soil at concentrations above levels determined to be acceptable for direct human exposure. Remediation of the site, which included installation of a barrier cap, took place between 2008 and 2014, when a Remedial Action Completion Report was issued by DTSC. Construction of the floodwalls near the Webster and Posey Tubes would not come close to this site, which is located more than 600 feet to the northwest, so there is no potential for construction work to breach the cap or otherwise expose construction workers to elevated contaminant levels.

The other proximate cleanup site listed on the EnviroStor database is at 2155 Mariner Square Loop, approximately 750 feet northwest of where the Webster and Posey Tubes daylight. Now developed with the Bayport residential apartment complex, this property was previously the site of the Alameda Navy Supply Center Annex that was also used as an airport in the 1930s. The site was originally developed in the 1920s when sediments dredged from the surrounding San Francisco Bay were used to fill in the undeveloped marshlands and tidal flats that had previously occupied this area. This fill material contained polyaromatic hydrocarbons (PAHs) that had been discharged from industries that occupied the area at the time.

The historic fill placement resulted in a thin, buried layer of sediments contaminated with semi-volatile organic compounds (SVOCs), most notably PAHs; this layer has been named the "marsh crust." The Marsh Crust Ordinance, enacted by the City of Alameda on February 15, 2000, restricts future excavation into the marsh crust and deposits from the former subtidal area. Any proposed excavation that exceeds stipulated depths that vary by location requires issuance by the City of a Marsh Crust Permit. Permit conditions require observance of proper procedures to ensure that workers are not exposed to hazardous materials and that the contaminated materials brought to the surface are properly disposed of. It should be noted that the area where floodwalls flanking the Webster/Posey Tubes are proposed is outside the area subject to the Marsh Crust Ordinance.

The DTSC listing for the former Alameda Navy Supply Center Annex noted that past activities and uses of the site that caused contamination included above-ground and underground storage tanks; aircraft maintenance; airfield operations; battery storage; a degreasing facility; chemical distributor; engine, equipment, and instrument testing and repair; aircraft and vehicle fuel storage and refueling; fuel pumping stations; a hazardous materials transfer station; hazardous waste storage and hauling; a junkyard; oil and water separators; a paint facility; pesticide, insecticide, and rodenticide storage; drum and scrap metal recycling; vehicle maintenance; and warehousing.

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<sup>22</sup> California Department of Toxic Substances Control, EnviroStor Site/Facility Search, Accessed May 3, 2019 at: <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Alameda,+CA>.

<sup>23</sup> State Water Resources Control Board, GeoTracker Database, Accessed May 3, 2019 at: <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Alameda,+CA>.

Soil, groundwater, and indoor air contaminants of concern at the site included heavy metals, organochlorine pesticides (OCPs), petroleum hydrocarbons, PCBs, SVOCs, and VOCs. Some remediation of the site occurred in the 1990s, with additional work conducted between 2002 and 2004, when DTSC issued a No Further Action letter for the property, which had been transferred from the Navy to the City in 2000. Additional investigation and remediation activities took place in subsequent years and the property was cleared for residential development in 2014, subject to deed restrictions that prohibit excavation below specified threshold depths, except in compliance with the Marsh Crust Ordinance, or with DTSC approval if the ordinance is repealed.

The planned location for construction of floodwalls where the Webster and Posey Tubes daylight is a substantial distance from the former cleanup sites discussed above, and there is no potential for construction activities to penetrate the cap at the Target site or the marsh crust at the Bayport apartment site. Implementation of the CARP would therefore have a **less-than-significant impact** due to the presence of these hazardous materials sites. (It is also worth noting again that this project will be subject to separate environmental review by Caltrans prior to implementation.)

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Although Oakland International Airport immediately to the east of the golf course and residential development on Bay Farm Island, implementation of CARP actions and adaptation measures would not expose people to a safety hazard from airport operations.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no private airstrips in the vicinity of the City of Alameda. The nearest private airstrip is Hayward Executive Airport, located more than 7 miles southeast of the City.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) <i>Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The City of Alameda has an Emergency Management Plan that sets forth the City’s responsibilities during emergencies associated with natural disaster, human-caused emergencies, and technological incidents.<sup>24</sup> It provides a framework for coordination of response and recovery efforts within the City in cooperation and with local, State, and federal agencies. The plan establishes an emergency organization to direct and control operations during a period of emergency by assigning responsibilities to specific personnel. The plan conforms to the State-mandated Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS), as well as Alameda County’s policies on emergency response and planning. The plan provides for coordinated emergency response at all levels in compliance with the Incident Command System (ICS).

The Emergency Management Plan identifies emergency evacuation routes throughout the City. The routes in west Alameda ultimately lead to evacuation of the island city via the Webster and Posey tunnels, while evacuation routes in the eastern portion of the City lead to the Park Street, Fruitvale Avenue, and High Street bridges.

The CARP does not include any actions or strategies that would potentially interfere with implementation of the City’s Emergency Management Plan. Implementation of the CARP would have no impact due to interference with an adopted emergency response/evacuation plan.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) <i>Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The City of Alameda is an urbanized, largely built-out area with commercial, residential, and light industrial development. There are no wildlands within or in proximity to the City, so there is no potential for wildfire at any of the CARP project sites.

<sup>24</sup> City of Alameda, *Comprehensive Emergency Management Plan*, July 2008.

**X. HYDROLOGY AND WATER QUALITY** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Violate any water quality standards or waste discharge requirements?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The operational phases of proposed CARP improvements would not involve the operation of combustion engines or include other features with the potential to generate pollutants that could adversely affect water quality. Operations associated with all CARP actions and strategies would either have no impact on water quality or would have an incremental beneficial effect. For example, the implementation of flood-proofing for pumping infrastructure (CARP Table 4-12) could potentially reduce the accidental discharge of pollutants into floodwaters during flooding events. The promotion and support of electric vehicles, addressed by numerous GHG reduction actions, would help reduce the number of vehicles powered by combustion engines, which contribute stormwater pollutants to roadways and parking lots.

Numerous CARP programs would require construction of new or expanded infrastructure, and clearing, grading, and other construction activities would increase the potential for soil erosion, potentially leading to increased turbidity and sedimentation in downstream receiving waters, including San Francisco Bay. In addition, there is a potential for construction equipment and trucks to leak or spill other pollutants that might impact surface water quality during project construction, including gasoline, diesel, kerosene, oil, and grease. Construction personnel could accidentally spill asphalt, paints, solvents, and litter, discharging hydrocarbons into stormwater runoff.

Larger CARP construction projects would be required to obtain coverage under Construction General Permit (CGP) Order 2009-0009-DWQ, administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB). The CGP is part of the National Pollutant Discharge Elimination System (NPDES), developed under the federal Clean Water Act. There are NPDES permit requirements both for stormwater discharge during construction projects as well as operational discharges, which are regulated under a Municipal Regional Permit (MRP) issued by the RWQCB to the cities, counties, water districts, and flood control districts under its jurisdiction in the San Francisco Bay Area.

Generally, for construction projects that entail “land disturbance” of 1 acre or more, the project sponsor is required to obtain coverage under the CGP. The CGP requires project sponsors to implement construction Best Management Practices (BMPs) at the project site and comply with numeric action levels (NALs) in order to achieve minimum federal water quality standards. The CGP requires control of non-stormwater discharges as well as stormwater discharges. Measures to control non-stormwater discharges such as spills, leakage, and dumping must be addressed through structural as well as non-structural BMPs.

To obtain clearances under the General Construction Permit, the applicant must electronically file permit-related compliance documents (Permit Registration Documents [PRDs]), including a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan (SWPPP), Notice of Termination (NOT), Numeric Action Level (NAL) exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally

Responsible Person (LRP) on the RWQCB's Stormwater Multi-Application Report Tracking System (SMARTS). Once filed, these documents become immediately available to the public for review and comment.

The required SWPPP would address potential erosion and sedimentation issues through a project-specific erosion control plan, as well as other BMPs to reduce the potential for spills and other contamination from on-site construction activities. Appropriate measures for control of sediment and other pollutants from construction sites are included in the *Construction Handbook of Best Management Practices* (CASQA 2015). The SWPPP for a given construction project is likely to include BMPs related to construction water-quality impacts, including the following:

- If the entire site is not graded in a single operation, leave existing vegetated areas undisturbed until construction of improvements on each portion of the development site is ready to begin;
- Immediately re-vegetate or otherwise protect all disturbed areas from both wind and water erosion upon completion of grading;
- Collect stormwater runoff into stable drainage channels and/or small drainage basins to prevent the buildup of large, potentially erosive stormwater flows;
- Direct runoff away from all areas disturbed by construction;
- Use sediment ponds or siltation basins to trap eroded soils before runoff is discharged into on-site or off-site drainage culverts and channels;
- Install straw rolls, hay bales, or other approved materials below all disturbed areas adjacent to creeks to prevent eroded soils from entering the stream channel. Maintain these facilities until all disturbed upslope areas are fully stabilized, in the opinion of the City Engineer;
- To the extent possible, schedule major site development work involving excavation and earthmoving for construction during the dry season;
- Develop and implement a program for the handling, storage, use, and disposal of fuels and hazardous materials. The program shall also include a contingency plan covering accidental hazardous material spills;
- Avoid cleaning, fueling, or maintaining vehicles on-site, except in an area designated to contain and treat runoff; and
- After construction is completed, inspect all drainage facilities immediately downstream of the grading site for accumulated sediment, and clear these facilities of debris and sediment as necessary.

While projects disturbing areas smaller than 1 acre are not subject to the CGP, the City has similar requirements for implementing construction BMPs and other measures to minimize soil erosion and contamination of stormwater with sediment and other pollutants. See Section VII-b for additional information.

All CARP construction projects would be required to obtain coverage under the CGP if they are large than 1 acre, such as the proposed construction of new bikeways (Action T2), and otherwise would be required to implement construction BMPs and comply with other applicable provisions of the Alameda Municipal Code pertaining to erosion and stormwater controls. Compliance with these requirements would ensure that the proposed CARP would have a ***less-than-significant impact*** on water quality.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** None of the CARP actions and adaptation strategies would pump or utilize groundwater, so the CARP would have no direct impact groundwater supplies. With one exception, no CARP actions or strategies would create new impervious surfaces that could potentially interfere with groundwater recharge. Only GHG Reduction Action T2, calling for construction of more bikeways, would create new impervious surfaces. Because these bikeways would consist of narrow linear strips of pavement, they would have a negligible effect on the percolation of stormwater into the ground; water would merely flow to the edges of bikeways and percolate into the surrounding ground. Furthermore, groundwater in Alameda is not utilized for water supply by the City for municipal supplies. Therefore, implementation of the CARP would have **no impact** on groundwater recharge or groundwater supplies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Construction-related impacts relating to erosion or siltation both on and off-site are discussed in Section X-a. Although none of the proposed CARP improvements would alter the course of a stream or river, some new infrastructure projects would result in minor changes to existing surface drainage patterns, which would generally be beneficial effects. Adaptation Planning for Critical and High-Use Roadways (CARP Table 4-14) includes reducing culvert and road drainage issues, which would reduce storm drain flooding during peak storm events. The construction of new floodwalls at the exit from Webster Tube and entrance to Posey Tube (CARP Table 4-12) would prevent the intrusion of floodwaters into the Tubes. Raising barriers and increasing road protection, as called for in various CARP adaptation strategies, would reduce uncontrolled surface flow in locations throughout the City, which can be exacerbated during peak storm events.

As noted above, the construction of new bikeways called for in GHG Reduction Action T2 would create new impervious surfaces, causing stormwater to flow to the edges of the bikeways, which

would have an imperceptible effect on existing drainage patterns and would not cause erosion or siltation.

No other CARP actions or adaptation strategies would alter drainage patterns in a manner that would result in substantial erosion or siltation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Numerous CARP climate change adaptation strategies are specifically intended to reduce the risk and magnitude of flooding impacts. No CARP elements would have the potential to increase surface runoff such that risk of flooding would increase. As explained in Section X-b, only GHG Reduction Action T2, calling for construction of more bikeways, would create new impervious surfaces, thereby increasing storm runoff. However, this runoff would flow a few feet to the edge of pavement, where it could percolate into the ground or, in the case of saturated ground conditions, mingle with the adjacent storm flow. Due to their narrow, linear nature, a bikeway across any given parcel of land would represent a minute percentage of the land area, and therefore its potential to increase the rate or volume of stormwater runoff would be negligible and would not have the potential to increase flooding on or off site. This would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Other than GHG Reduction Action T2, calling for construction of more bikeways, no CARP actions or adaptation strategies would create new impervious surfaces. They would therefore have no potential to increase stormwater runoff, and would have no adverse effect on the stormwater drainage system and would not create new sources of polluted runoff. In the case of the bikeways, explained in Section X-d, they would have little to no effect on the volume of stormwater runoff in the areas where they were constructed, and would generate no water pollutants. The CARP would have **no impact** on the stormwater drainage system.



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Otherwise substantially degrade water quality?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Potential degradations in water quality due to the proposed CARP were addressed in Section X-a. This would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) <i>Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not create new housing.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) <i>Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: One of the primary purposes of the proposed CARP is to reduce the City's exposure to flooding impacts, particularly as climate change results in continued sea level rise, which will increase the areas in Alameda that are within the 100-year flood hazard area. Sea level in San Francisco Bay has risen over 8 inches in the last 100 years and is projected to rise by up to another 23 inches by 2050 and up to another 83 inches by 2100.<sup>25</sup>

The CARP proposes to construct new structures or raise existing structures such as levees, seawalls, and floodwalls at various locations throughout the City. These structures are specifically intended to impede or redirect flood flows in order to prevent inundation of homes, businesses, and roadways and prevent the property damage that can result from such inundation. No habitable structures are proposed for construction in the CARP, and all new development encompassed in the CARP climate change adaptation strategies is intended to prevent or reduce impacts from flooding. Implementation of the CARP would have a beneficial effect and would have **no adverse impacts** related to flood hazards.

<sup>25</sup> City of Alameda, *Climate Action and Resiliency Plan (CARP)*, Table 4-2: Observed and Projected Climate Impacts, May 2019.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) <i>Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Because Alameda is an island city and there are no large reservoirs within the City, there is no potential for dam failure inundation at any of the CARP project sites.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
j) <i>Inundation by seiche, tsunami, or mudflow?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** In the San Francisco Bay Area, any potential tsunami would originate in the Pacific Ocean, and to reach the City of Alameda, would need to pass through the relatively narrow Golden Gate and into San Francisco Bay, where it would lose much of its energy. Although Alameda is a significant distance from the Golden Gate—approximately 8.5 miles—and the distance and intervening land masses should substantially limit the amount of potential tsunami runup at the City, due to its low-lying topography, much of the City is deemed at risk from tsunami runup. The Resilience Program of the Association of Bay Area Governments (ABAG) has mapped potential tsunami inundation areas in the San Francisco Bay, and their interactive mapping indicates that all of Bay Farm Island and most of Alameda Island except the inland areas in the southeast half of the City are at risk from tsunamis.<sup>26</sup> However, no CARP components would increase the risk of exposure to inundation by tsunami, either to people or to structures. Some of the CARP climate change adaptation strategies, including new or raised existing structures such as levees, seawalls, and floodwalls, would likely improve protection from tsunami inundation, depending on location in the City and the height of inundation. Therefore, implementation of the CARP could have an incremental beneficial effect and would have **no adverse impacts** due to inundation by tsunami.

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. Aside from San Francisco Bay (including Seaplane Lagoon), which is addressed by the tsunami inundation potential discussed above, there are no large bodies of surface water in the City of Alameda; there is therefore no potential for inundation of the site due to seiche.

Debris flows, mudslides, and mudflows begin during intense rainfall as shallow landslides on steep slopes. The rapid movement and sudden arrival of debris flows can pose a hazard to life and property during and immediately following a triggering rainfall. There are no steep slopes in the areas with proposed CARP improvements. There is therefore no potential for mudslides or debris flows.

<sup>26</sup> Association of Bay Area Governments, Resilience Program, Tsunami Inundation Area for Emergency Planning, Accessed May 17, 2019 at: <http://gis.abag.ca.gov/website/Hazards/?hlyr=tsunami>.

**XI. LAND USE AND PLANNING** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Physically divide an established community?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** None of the proposed CARP improvements would include any construction such as new off-site roadways that could physically divide an existing neighborhood, nor would it otherwise create any barriers to existing circulation within the community. Therefore, implementation of the proposed project would not physically divide an established community.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The proposed CARP includes GHG reduction actions that will reduce traffic congestion, increase use of alternative transportation modes, reduce the volume of automobile traffic, reduce traffic noise, reduce consumption of natural gas in buildings, improve water quality, reduce soil erosion, reduce use of fertilizers and herbicides, enhance bird habitats, improve the aesthetics of the City, and achieve other environmental benefits. The CARP also proposes climate change adaptation strategies intended to improve shoreline stability, reduce vulnerability to flooding and sea level rise, increase floodproofing of transportation and storm drainage infrastructure, increase green infrastructure, and increase building resilience to earthquake-induced liquefaction, among other objectives.

These actions and strategies are consistent with and supportive of a variety of General Plan policies, such as those calling for: preservation and enhancement of wetlands and water-related habitat, including mudflats and eelgrass beds; protection and improvement of Crown Beach; protection of special-status species; planting new trees; improving air quality; increasing use of public transit; enhancing the network of bicycle facilities; maximizing air quality benefits and reducing GHG emissions through transportation shifts; increasing telecommuting; promoting bicycling; and many others. Taken as a whole, implementation of the proposed CARP would result in many environmental benefits to the City that would be supportive of goals and objectives inherent in many of the City’s General Plan policies. No conflicts with General Plan policies or zoning regulations were identified. The CARP would have **no impact** related to a conflict with an environmental policy or regulation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Conflict with any applicable habitat conservation plan or natural community conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The proposed CARP is a plan for the conservation of the natural environment and reduction of the impacts of the human population on the environment.

**XII. MINERAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** No regionally significant mineral deposits have been mapped on or in the vicinity of the project site. All of the City of Alameda is classified as Mineral Resource Zone (MRZ) category MRZ-1 by the California Department of Conservation’s Division of Mines and Geology (DMG).<sup>27</sup> The MRZ-1 designation is assigned to areas where sufficient data exists for a determination that no significant mineral deposits exist, or where it is judged that there is little likelihood for their presence. Therefore, the project would have **no impact** on the availability of mineral resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** No locally significant mineral resources are designated in the City’s General Plan. There is no potential for the proposed CARP to have an adverse effect on the availability of significant mineral resources.

<sup>27</sup> California Department of Conservation, Division of Mines and Geology, Generalized Mineral Land Classification Map of the South San Francisco Bay Production-Consumption Region (Plate 1 of 29), 1996.

**XIII. NOISE** — *Would the project result in:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Implementation of CARP policies and programs would have no effects on noise, while GHG reduction actions intended to reduce vehicle miles travelled by combustion-powered automobiles would incrementally but imperceptibly reduce noise generated by vehicle travel. The only potential for increased noise related to the proposed CARP would be during the construction of proposed improvements, such as the construction of new bikeways and new or raised flood barriers. These temporary noise impacts are addressed in Section XIII-d, below. Operationally, the proposed CARP would have **no impact** on noise.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** While vibration generated by construction activity can cause annoyance to nearby receptors, operation of typical construction equipment (such as would be required to implement programmed CARP improvements) is not associated with excessive levels of groundborne vibration or noise. Any vibration generated during project construction would be minimal, intermittent, and would occur only during the short-term grading period or other construction phases involving operation of heavy equipment. Furthermore, groundborne vibration falls off quickly with distance, and at a distance of 25 feet from the equipment, vibration caused by bulldozers and excavators has no potential to cause structural or non-structural damage to buildings. For example, operation of a large bulldozer produces a vibration level at 25 feet of 0.089 inches per second (in/sec) of peak particle velocity (PPV).<sup>28</sup> In comparison, a recommended exposure threshold for more vulnerable older and historic buildings is 0.5 in/sec PPV.<sup>29</sup> The construction work that would be undertaken to implement CARP actions and strategies would not occur within 25 feet of residences or vulnerable buildings. Temporary construction-related vibration could be noticeable to some people, but occupants of the nearby residences or other

<sup>28</sup> Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment Manual*, Table 7-4: Vibration Source Levels for Construction Equipment, FTA Report No. 0123, September 2018.

<sup>29</sup> California Department of Transportation (Caltrans), *Transportation and Construction Vibration Guidance Manual*, Table 14: Dowding Building Structure Vibration Criteria, September 2013.

buildings would not experience excessive groundborne vibration or groundborne noise during CARP construction activities. Following completion of construction, there would be no potential for CARP improvements to generate vibration. This would be a **less-than-significant** impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The improvements proposed in the CARP, such as new bikeways and new or elevated flood barriers, would generate no noise once their construction is completed. CARP programs intended to increase use of electric vehicles and decrease use of vehicles powered by combustion engines would result in a minor incremental reduction in ambient noise levels on and adjacent to the City’s roadways, which would be a small beneficial impact. Implementation of the CARP would have **no adverse impact** due to a permanent increase in ambient noise levels.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Temporary, short-term noise would be generated during construction of the improvements proposed in the CARP. The CARP elements that would have the biggest short-term noise impacts during their construction would include development of more bikeways (Action T2), creation of flood barriers at the exit from Webster Tube and entrance to Posey Tube (Adaptation Strategy 4-12), regrading and elevating the roadway at Veteran’s Court (Adaptation Strategy 4-10), dredging near the Bayview Outfall (Adaptation Strategy 4-16), and elevating shoreline protection at Towata Park (Adaptation Strategy 4-11). Constructing higher levees, seawalls, and other shoreline barriers at various locations would also involve operation of heavy construction equipment that would cause localized temporary increases in ambient noise levels.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction lasts over extended periods of time.

Construction noise is particularly loud during grading and other earth-moving activities when heavy equipment is used. The highest maximum noise levels generated by project construction activities would typically range from about 90 to 95 A-weighted decibels (dBA) at a distance of 50

feet from the noise source.<sup>30</sup> Typical hourly average construction generated noise levels are about 81 dBA to 88 dBA measured at a distance of 50 feet from the center of the site during the noisiest construction periods. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor. Shielding by buildings or terrain typically result in lower construction noise levels at more distant receptors.

Sensitive residential receptors are located in close proximity to some of the CARP construction projects listed above, and nearby residents who remain at home during daytime construction hours could be exposed to excessive noise levels during noisy construction activities. However, most Bay Area cities do not treat temporary construction noise as a significant impact pursuant to CEQA if construction activities are limited to stipulated hours. Pursuant to Section 4-10.7 of the Alameda Municipal Code, noise-generating construction activities must be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturdays. Construction is prohibited on Sundays and holidays. Construction of the proposed CARP improvements would be required to occur only during these hours and, therefore, implementation of the CARP would have a **less-than-significant impact** related to temporary construction noise.

Implementation of one CARP element would have a beneficial effect on temporary noise. GHG reduction action T5 calls for a Citywide ban on the use of gas-powered leaf blowers. This would reduce the temporary but substantial noise levels that can be generated by these machines. Although gas-powered leaf blowers would likely be replaced by electric leaf blowers, they generate much lower noise levels.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Although Oakland International Airport is located immediately adjacent to the City's development on Bay Farm Island, the proposed CARP would not create new buildings or otherwise include any features with the potential to expose people to increased or excessive aircraft noise. There would be **no impact** from airport noise.

<sup>30</sup> Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. The A-weighted sound level (dBA) factors in an adjustment to measured noise levels that reflects the reduced hearing sensitivity of humans at low and extremely high frequencies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As noted above, the proposed CARP would not create new buildings or otherwise include any features with the potential to expose people to increased or excessive aircraft noise. Furthermore, there are no private airstrips in the vicinity of the project. There would be **no impact** from private airstrip noise.

**XIV. POPULATION AND HOUSING** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Induce substantial 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)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed CARP would not induce population growth by creating new housing or constructing new infrastructure that would open up new areas to development. Implementation of the CARP is not expected to directly create new jobs, which could draw new residents to the City of Alameda. Although a variety of CARP actions and implementation measures would entail construction of new infrastructure or modification of existing infrastructure, which will be implemented in the short term (less than 5 years), medium term (5 to 10 years), and long term (more than 10 years), it is not expected that the relatively small-scale CARP projects would induce construction workers to relocate to the City of Alameda or surrounding areas. For the most part, these construction projects could be implemented using the construction workforce that is already available in the region at the time of construction. In the event that a small number of workers are induced to move to Alameda or nearby cities, this would not represent a substantial growth in population. Implementation of the CARP would have a **less-than-significant impact** on population growth.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: No existing housing would be displaced as a result of CARP implementation.



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: No people would be displaced as a result of CARP implementation.

**XV. PUBLIC SERVICES** - *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 following public services:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Fire protection?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed CARP would not involve the construction of new habitable structures that could potentially lead to a substantial increase in demand for fire protection services. CARP adaptation strategies for heat and drought (CARP Table 4-25) would increase the availability of cooling stations to at-risk populations, which could reduce the number of heat strokes or other medical emergencies requiring Fire Department response, resulting in a beneficial effect on fire protection and emergency medical response services. Construction of new bikeways (Action T2) could result in increased bicycle accidents, which could increase the number of calls for emergency medical response, but this would be an infrequent occurrence that would be accommodated by existing fire and medical response services, and would not require the construction of new or expanded facilities. This would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Police protection?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Implementation of the CARP would not increase the population of Alameda, which could cause an increase in the incidence of crime, and would not develop new facilities that could attract crime. Some of the GHG reduction actions in the CARP could reduce traffic generation, traffic congestion, and vehicle miles traveled, which would be expected to incrementally reduce the incidence of traffic violations and accidents requiring police response, which would be a

beneficial effect. CARP actions that could contribute to these benefits would include encouraging telecommuting (Action T1), building more bikeways (Action T2), synchronizing traffic signals (Action T3), and expanding the *EasyPass* program (Action T4). Beneficial effects could also accrue from climate change adaptation strategies that improve preparedness for natural disasters, such as the strategies for critical services (CARP Table 4-19), which could reduce demand on emergency services during disasters, including demand for police response. Similarly, all of the CARP strategies that would reduce the potential for inundation by flooding would be expected to incrementally reduce calls for police services in response to flooding impacts. No CARP components would have the potential to cause increased demand for police protection services. Implementation of the CARP would have **no impact** on police protection services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Schools?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As noted above, implementation of the CARP would not increase the population of Alameda, and would therefore not generate new students and the associated demand for school services that occurs with increased population. The CARP is also not expected to create a substantial number of new jobs that could indirectly lead to an increase in the City’s population. The proposed CARP would have **no impact** on schools.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Parks?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As stated in Section XV-c, above, implementation of the CARP would not increase the population of Alameda, and would therefore not generate increased demand for parks. The proposed CARP would have **no impact** on parks.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Other public facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: CARP adaptation strategies for heat and drought (CARP Table 4-25) would increase the availability of cooling stations to at-risk populations, which would likely increase the use of these facilities, as intended, but would not require construction of additional facilities over and above those already planned. No other CARP components would have a direct effect on the demand for other public facilities, such as libraries, and expansion of such facilities would not be required. The proposed CARP would have **no impact** on other public facilities.

**XVI. RECREATION** —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Would the 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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As discussed in Section XV, above, implementation of the CARP would not increase the population of Alameda, and would therefore not generate increased demand for parks or other recreational facilities. Although the creation of new bikeways (Action T2) would result in new demand for these transportation facilities that can also be used for recreational purposes, that is the express intention behind creating the bikeways. Deterioration of new bikeways would occur with use over time, as with any physical amenity, but implementation of the CARP would not cause substantial acceleration in the deterioration of these transportation infrastructure projects. The proposed CARP would have a ***less-than-significant impact*** on recreation facilities and no impact on parks, as previously noted.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Although the CARP proposes creation of new bikeways (Action T2) to increase alternative transportation options within the City, these new facilities will be located mostly on existing streets. The proposed CARP does not include construction of any other recreational facilities.

**XVII. TRANSPORTATION/TRAFFIC** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** In general, implementation of the CARP is expected to have beneficial effects on the transportation system in the City of Alameda and surrounding areas by reducing traffic generation, traffic congestion, and vehicle miles traveled. CARP actions and strategies are intended to expand use of mass transit as well as non-motorized travel, another environmental benefit. None of the CARP actions and strategies would result in increased traffic generation.

Benefits to the transportation system would be realized from GHG reduction actions encouraging telecommuting (Action T1), building more bikeways (Action T2), synchronizing traffic signals (Action T3), and expanding the *EasyPass* program (Action T4). Beneficial effects could also accrue from climate change adaptation strategies that include construction of floodwalls at the exit from Webster Tube and entrance to Posey Tube (CARP Table 4-12), reduction of culvert and road drainage issues (CARP Table 4-14), establishing alternatives to buses (e.g., water taxis, ferries, and BART) (CARP Table 4-14), coordinating with AC Transit to develop a dynamic routing and notification system for buses during storm events (CARP Table 4-14), and implementing shoreline modifications to prevent the flooding and inundation that is likely to disrupt key roadways and transit systems (CARP Tables 4-14 and 4-15).

Additional benefits to the transportation system would accrue from some of the actions and strategies in the CARP that call for implementation of various plans that have previously been adopted by the City, including the *Transportation Demand Management Plan*, *Transportation Choices Plan*, and *Pedestrian and Bicycle Master Plan*. Environmental review of these plans pursuant to CEQA was previously conducted, and is not included in the scope of this Initial Study, but their environmental benefits are worth noting.

While traffic congestion will be reduced by implementation of GHG reduction action T3, calling for improving the synchronized timing of traffic lights, this could also cause temporary disruptions and delays in traffic. For example, it could require the installation of magnetic sensors in the roadway, resulting in temporary lane closures and disruption of traffic flow. Even absent in-road construction, alteration of signal timing could result in unanticipated effects on cross streets or disruptions cause by changes to established traffic patterns. Lengthy traffic queues that could be caused inadvertently could have cascading effects on multiple intersections, potentially increasing overall congestion and traffic delays. While these would be temporary effects while signal

synchronization is implemented and fine-tuned, the temporary effects could be disruptive to traffic, and it is therefore conservatively assumed that this would be a **potentially significant impact** on the performance of the circulation system. Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

**Mitigation Measure TRA-1:** Prior to making adjustments to the City’s traffic control system, the project sponsor shall prepare and implement a Temporary Traffic Control Plan (TTCP), subject to review and approval by the Alameda Public Works Department. The TTCP shall stipulate provisions for signage, including placement locations; merging tapers; placement of cones, drums, barricades, or arrow panels; use of flaggers and flagging procedures; and other measures, as appropriate. The TTCP shall be prepared in accordance with the Federal Highway Administration’s (FHWA) *Guidelines for Temporary Traffic Control in Work Zones*, Part 6 of the *Manual of Uniform Traffic Control Devices (MUTCD)* prepared by the FHWA, or other guidelines approved by the Public Works Department. All temporary traffic control devices shall be removed as soon as practical when they are no longer needed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The congestion management agency for Alameda County is the Alameda County Transportation Commission (Alameda CTC). Alameda CTC’s Congestion Management Program (CMP) only requires review of potential impacts on CMP roadways from proposed land use actions that would cause a net increase of 100 PM peak-hour vehicle trips or more. Implementation of the proposed CARP would not generate new traffic, so there would be **no impact** on CMP roadways and no potential to conflict with the CMP.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would have no effect on air traffic patterns.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: CARP Action T2 calls for construction of new bikeways, which would include the creation of more dedicated and protected bike lanes and other pedestrian/bikeway improvements that would increase bicyclist and pedestrian safety and make the bikeway network more accessible and easier for people to use. No CARP improvements would create new traffic hazards. Thus, the proposed project would have a beneficial effect and **no adverse impact** related to traffic hazards.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Result in inadequate emergency access?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no proposed CARP programs or improvements that would reduce or impair emergency access. Implementation of the CARP would indirectly improve emergency access by reducing the potential for flooding of City streets, thereby reducing impediments to emergency vehicle travel on Alameda roadways. CARP adaptation strategies for critical services (CARP Table 4-19) could also improve emergency access through programs to enhance the ability of citizens to react to natural disasters, improve access to their homes and businesses, and evacuate if necessary, all of which could reduce the burden on emergency responders and reduce their need to provide response to individual properties during a disaster event. Some of the adaptation strategies that would contribute to these benefits include:

- Amend emergency response policies, procedures, and trainings to be responsive to the specific needs and characteristics of individuals and households being served;
- Work with community groups to develop an effective disaster communication system so that all community members, including those who are non-English speaking, receive key communications from City/local officials before, during, and after a disaster event;
- Provide technical assistance to neighborhoods to support the development and maintenance of disaster plans, including storm evacuation procedures and shelter-in-place guidelines;
- Develop and update protocols for routing emergency services (fire, ambulance, police) to ensure all homes and businesses can be accessed in the event of an emergency;
- Develop plans to address how other critical facilities can fill the gap if the Bay Farm Island fire station is cut off from accessing parts of the community due to road flooding; and

- Amend emergency response policies, procedures and trainings to be responsive to the specific needs and characteristics of individuals and households being served, such as having the specialized equipment or evacuation procedures necessary for medically or mobility challenged people.

A variety of the adaptation strategies for transportation (CARP Table 4-22) could have similar benefits to emergency access. In addition, CARP adaptation strategies for land use resiliency (CARP Table 4-20) include identifying areas where future development or redevelopment should be restricted due to extreme future flooding hazards and exploring programs including buy-outs to incentivize relocation rather than rebuilding. Implementing this strategy would also have a beneficial effect on emergency access by reducing the number of areas where emergency access could be blocked or impeded during flooding events. Thus, the proposed CARP would have beneficial effects and **no adverse impact** on emergency access.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety to such facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The CARP specifically calls for implementation of the *Transportation Demand Management Plan*, *Transportation Choices Plan*, and *Pedestrian and Bicycle Master Plan*. It also includes actions and strategies to enhance facilities for and access to alternative modes of transportation, including public transit and bicycle and pedestrian facilities. Examples include the creation of more bikeways (Action T2); establishing transit alternatives to buses, including water taxis, ferries, and BART (CARP Table 4-14); installation of bus shelters (CARP Table 4-14); and engaging transit-dependent residents and those at high risk of disruption due to sea level rise and storm events to identify alternative transportation options and establish a long-term plan to maintain transit services across Alameda (CARP Table 4-15). Therefore, the proposed CARP would enhance the adopted policies, plans, and programs pertaining to these alternative modes of transportation, and would have no conflicts. There would be **no impact**.

**XVIII. TRIBAL CULTURAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p><i>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:</i></p>				
<p>a) <i>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)?</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Pursuant to Assembly Bill (AB) 52, passed by the California Legislature in September 2014, the City proactively contacted Native American tribal groups who may be traditionally and culturally affiliated with the City of Alameda. These tribes were previously identified by the Native American Heritage Commission (NAHC) as being affiliated with the area. The NAHC identified the following tribal groups as having potential affiliation with the City:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- North Valley Yokuts Tribe
- The Ohlone Indian Tribe
- Costanoan Rumsen Carmel Tribe

Letters were mailed to each of the representatives of these tribal groups on May 9, 2019, offering them the opportunity to provide input regarding any concerns their tribes may have about the potential impacts implementation of the proposed CARP could have on tribal cultural resources. As of the time of publication of this Initial Study, the City had not received any responses from the tribal groups who, pursuant to AB 52, had 30 days to respond.

As discussed further in Section V, the possible presence of buried prehistoric cultural materials, including tribal cultural resources, at the sites of some CARP improvements cannot be ruled out, and any disturbance to such resources, were they to exist, could result in a **significant, adverse impact** on tribal cultural resources. Implementation of Mitigation Measures CR-2 and CR-3, set forth in Section V, would reduce the potential impact to a less-than-significant level:



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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 Resources Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Public Resources Code Section 5024.1 establishes the California Register of Historical Resources and defines the criteria for inclusion on the California Register. No historic resources are known or suspected to be present at the locations of proposed CARP improvements. However, as discussed in Section V-a, their potential presence cannot be completely ruled out. Were such resources to be present, disturbance of the subsurface during construction could damage or destroy the resource(s), which would be a **potentially significant impact** on historic resources. Implementation of Mitigation Measures CR-1 through CR-3 (see Section V) would reduce the impact to a less-than-significant level.

**XIX. UTILITIES AND SERVICE SYSTEMS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed CARP does not include development of new buildings or other facilities that would generate wastewater. The project would have **no impact** due to exceeding wastewater treatment requirements.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As noted above, the proposed CARP does not include development of new buildings or other facilities that would generate wastewater. Similarly, none of the CARP components would consume water, other than minor incidental use of water during construction projects. The project would have **no impact** on water or wastewater treatment facilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: No new or expanded stormwater drainage facilities are proposed as part of the CARP, so the project would have **no adverse impact** on the stormwater system. Numerous CARP adaptation strategies could have beneficial effects on the City's stormwater drainage system. For example, the adaptation strategies for critical and high-use roadways (CARP Table 4-14) include a program specifically to reduce culvert and road drainage issues. A variety of other CARP elements are intended to reduce flooding, which would reduce instances of overburdening or exceeding capacity of existing stormwater drainage facilities. Similarly, upgrades to storm drain pump stations and other stormwater system components (CARP Table 4-15) would alleviate impacts from flood inundation of the stormwater drainage system. The project would have a net beneficial effect on stormwater drainage capacity.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed CARP does not include development of new buildings or other facilities that would consume water. Some water could be used during construction of CARP

improvements, but such use would be minor and would not affect water supply. The project would have **no impact** on water supplies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: See Section XIX-b, above.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed CARP does not include development of new buildings or other facilities that would generate solid waste. Some waste could be generated during construction of CARP improvements, but would not represent a substantial increase in the City's wastestream or adversely affect available waste disposal capacity. Demolition debris could also be generated during implementation of CARP improvements, such as developing new bikeways (Action T2) or raising the height of existing levees and seawalls. Such debris would largely consist of removed asphalt or concrete. The City of Alameda requires at least 65 percent of the construction and demolition (C&D) debris from a project to be recycled by a certified C&D processor, who is subject to a variety of permitting requirements and annual renewal of the permit. Thus, the bulk of the waste that would be generated during construction of CARP improvements would not be disposed of in a solid waste landfill, but would be repurposed for other uses, such as in the construction of new roads. The amount of C&D waste going to landfill would not be substantial, and the project would have a **less-than-significant impact** on landfill disposal capacity.

**XX. WILDFIRE** — *If located in or near a State Responsibility Area or lands classified as a Very High Fire Hazard Severity Zone, would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Substantially impair an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** As discussed in Section IX-g, the City of Alameda has an Emergency Management Plan that sets forth the City’s responsibilities during emergencies associated with natural disaster, human-caused emergencies, and technological incidents. In addition to providing a framework for coordination of response and recovery efforts within the City in cooperation and with local, State, and federal agencies, it also identifies emergency evacuation routes throughout the City. The primary evacuation routes from the island city are via the Webster and Posey tunnels for the west side of the City; the Park Street, Fruitvale Avenue, and High Street bridges for the east side of the City; and via Doolittle Drive and the Ron Cowan Parkway for Bay Farm Island.

The CARP does not include any actions or strategies that would potentially interfere with implementation of the City’s Emergency Management Plan. Implementation of the CARP would have no impact due to interference with an adopted emergency response/evacuation plan.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire of the uncontrolled spread of a wildfire?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The City of Alameda is an urbanized, largely built-out area with commercial, residential, and light industrial development. There are no wildlands within or in proximity to the City, so there is no potential for wildfire at any of the CARP project sites. There would be **no wildfire impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Implementation of the proposed CARP would not include development of new roads, fuel breaks, emergency water sources, power lines, or other utilities that could exacerbate fire risk. The infrastructure that is proposed is expressly intended to reduce impacts to the environment by avoiding or reducing the effects of flooding and sea level rise, and this infrastructure would not result in any new environmental impacts not already addressed in this Initial Study.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed CARP does not include development of new structures and does not include any provisions that would increase the population of the City or result in relocation of people within the City. Therefore, no people or structures would be exposed to increased risk from flooding, landslides, or post-fire slope instability. In addition, the CARP would not increase the potential for these types of hazards, while it would actively reduce the potential for flooding and drainage impacts. The project would have a beneficial effect in this regard, and would have **no impact** due to due to post-fire effects on flooding, landslides, or other related risks.

**XXI. MANDATORY FINDINGS OF SIGNIFICANCE** —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: CARP construction projects could have short-term impacts on air quality. Mitigation measures have been identified in this Initial Study to ensure that air quality impacts remain less than significant. Although construction of some improvements called for in the CARP would have the potential to adversely affect special-status birds or marine wildlife, mitigation measures have been identified to ensure that potential impacts would be less than significant. There is a possibility for prehistoric or historic cultural resources to be buried under sites where implementation of CARP improvements could involve disturbance of the subsurface. This activity could damage or destroy any buried cultural resources that may be present. Similarly, if paleontological resources are present, they could also be damaged or destroyed during construction activities. However, mitigation measures have been identified to ensure that these potential impacts would be less than significant.

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

Explanation: No significant cumulative impacts were identified for the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Children attending a daycare center in the vicinity of the egress of the Webster and Posey Tubes, as well as nearby workers, could be exposed to an elevated health risk during construction of floodwalls at this location. A separate environmental review by Caltrans will be required for that project prior to implementation; such review is likely to include performance of a health risk assessment (HRA) of the potential construction-related health impacts to nearby receptors. Although construction workers could be exposed to currently unknown buried soil contaminants during implementation of CARP improvements, mitigation has been identified to protect worker health and, if warranted, remediate the contamination. No other environmental effects of the project were identified that could cause substantial adverse effects on human beings, either directly or indirectly.

## REPORT PREPARATION

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## MITIGATION MEASURES

### Air Quality

#### **Mitigation Measure AQ-1:**

Prior to construction of any new facilities or structures, the City shall implement the BAAQMD recommended *Basic Construction Mitigation Measures*, listed in Table 8-2 of the BAAQMD CEQA Air Quality Guidelines. These measures include the following:

- 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 the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted 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.



## Biological Resources

**Mitigation Measure BIO-1:** Prior to construction of any new facility or structure on submerged lands or that requires in-water work, the City shall retain the services of a qualified marine biologist to review the project plans and conduct a biological assessment of the project area. The biological assessment shall identify potential impacts to sensitive habitat(s) and/or special-status species and include mitigation measures sufficient to avoid the impacts or ensure that the impacts are less than significant. Implementation of the CARP project shall not proceed without implementation of the required biological mitigation measures, in accordance with the timing stipulated in the biological assessment for the project.

**Mitigation Measure BIO-2:** To the extent feasible, construction activities shall be scheduled to avoid the nesting season, which for most birds in Alameda County extends from February 1 through August 31. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. If nesting season cannot be avoided during construction, prior to construction of GHG Reduction Action T2 or any of the climate change adaptation strategies listed above, the City shall retain the services of a qualified wildlife or avian biologist to conduct a bird nesting survey of the proposed area of disturbance and within a 250-foot radius of the proposed area of disturbance. If conducted during the early part of the breeding season (January to April), the survey shall be conducted no more than 14 days prior to initiation of grading/construction activities, due to the higher probability that new nest construction could be initiated during this time. If conducted during the late part of the breeding season (May to August), when the potential for new nest creation is much lower, the survey shall be performed no more than 30 days prior to initiation of these activities. If active nests are identified, a 250-foot fenced buffer (or an appropriate buffer zone determined in consultation with the California Department of Fish and Wildlife) shall be established around the nest tree and the site shall be protected until September 1<sup>st</sup> or until the young have fledged. A biological monitor shall be present during earth-moving activity near the buffer zone to make sure that grading does not enter the buffer area.

**Mitigation Measure BIO-3:** Prior to construction of any new facilities or structures in or in close proximity to wetlands, the City shall retain the services of a qualified wetland biologist to review the project plans and conduct a biological assessment of the project area. The biological assessment shall identify potential impacts to protected wetland habitats and determine any applicable permit requirements from the U.S. Army Corps of Engineers, U.S. Fish

and Wildlife Service, California Department of Fish and Wildlife, San Francisco Bay Regional Water Quality Control Board, and/or the San Francisco Bay Conservation and Development Commission. The biological assessment shall include mitigation measures sufficient to avoid identified impacts to wetlands or ensure that the impacts are less than significant. Implementation of the CARP project shall not proceed without implementation of the required biological mitigation measures, in accordance with the timing stipulated in the biological assessment for the project. Any required regulatory permits shall be obtained prior to commencing construction.

### Cultural Resources and Tribal Cultural Resources

**Mitigation Measure CR-1:** Prior to planting new trees as called for in GHG Reduction Action S2 and Climate Change Adaptation Strategies for Heat and Drought (CARP Table 4-25) and Wildfire Smoke (CARP Table 4-26), City staff shall advise the work crew of the potential for encountering cultural resources, such as modified stone or shaped rock fragments (including arrow and spear heads); man-made objects; fire-charred soil, stone, or artifacts; bone fragments; or other objects of questionable provenance or era. Workers shall be notified that if they encounter any such items, they are to stop work at the site of the find and contact City staff, who shall retain the services of a qualified archaeological consultant to identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Any mitigation recommendations of the archaeologist shall be implemented prior to resuming the tree planting.

**Mitigation Measure CR-2:** If any cultural artifacts are encountered during site grading or other project construction activities, all ground disturbance within 100 feet of the find shall be halted until the City of Alameda is notified, and a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). (Construction personnel shall not collect any cultural resources.) The results of any additional archaeological effort required through the implementation of Mitigation Measures CR-1 or CR-2 shall be presented in a professional-quality report, to be submitted to the City of Alameda Planning Division and the Northwest Information Center at Sonoma State University in Rohnert Park.

**Mitigation Measure CR-3:** In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Office of the Alameda County Coroner and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined

to be prehistoric, the Coroner’s Office will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a “Most Likely Descendant” (MLD). The MLD in consultation with the archaeological consultant and the City, will advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

**Mitigation Measure CR-4:** If any paleontological resources—such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions—are encountered during site grading or other construction activities, all ground disturbance within 100 feet of the find shall be halted until the services of a qualified paleontologist can be retained to identify and evaluate the scientific value of the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Significant paleontological resources shall be salvaged and deposited in an accredited and permanent scientific institution, such as the University of California Museum of Paleontology (UCMP).

#### Greenhouse Gases

**Mitigation Measure GHG-1:** Prior to construction of major new seawalls, bulkheads, or other new sea level rise mitigation, the City shall model GHG emissions that would be generated by the construction project in question and recommend appropriate mitigation measures for any impacts deemed to be significant. If the analysis identifies a significant GHG impact, the City shall implement the identified mitigation measure(s) during project construction to ensure that air quality impacts remain less than significant.

#### Hazards and Hazardous Materials

**Mitigation Measure HM-1:** Prior to any construction activity related to the replacement of underground of sewer or stormwater pipes as part of the City’s climate change adaptation action for utilities, the City shall inform the construction contractor of the potential for workers to encounter contaminated soil during the work. The contractor shall be required to direct workers to be alert for odors or soil staining that might indicate contamination and, in the event such signs are observed, the workers shall stop work and inform the construction foreman, who shall notify the City immediately (same day).

If indicators of soil contamination are encountered during pipe replacement work, the City shall retain the services of a Registered Environmental Assessor (REA) or other qualified professional to conduct sampling and laboratory analysis of soil collected from the

site and perform a Phase II Environmental Site Assessment (ESA) of the work site. The Phase II ESA shall contain an assessment of the hazards relative to applicable regulatory thresholds and shall include any necessary remediation requirements for any contaminants that exceed regulatory thresholds. Pipeline replacement work shall not resume until subsequent testing confirms that the site has been cleaned up to safe levels.

#### Transportation/Traffic

**Mitigation Measure TRA-1:** Prior to making adjustments to the City's traffic control system, the project sponsor shall prepare and implement a Temporary Traffic Control Plan (TTCP), subject to review and approval by the Alameda Public Works Department. The TTCP shall stipulate provisions for signage, including placement locations; merging tapers; placement of cones, drums, barricades, or arrow panels; use of flaggers and flagging procedures; and other measures, as appropriate. The TTCP shall be prepared in accordance with the Federal Highway Administration's (FHWA) *Guidelines for Temporary Traffic Control in Work Zones*, Part 6 of the *Manual of Uniform Traffic Control Devices (MUTCD)* prepared by the FHWA, or other guidelines approved by the Public Works Department. All temporary traffic control devices shall be removed as soon as practical when they are no longer needed.