



**Division 4 (D4) Modifications to  
Accommodate Battery Electric Buses as part  
of the 45 Zero Emission Bus Purchase**

**INITIAL STUDY/PRELIMINARY MITIGATED  
NEGATIVE DECLARATION**

**September 2019**



INITIAL STUDY – PRELIMINARY MITIGATED NEGATIVE DECLARATION

**Date:** September 26, 2019

**Project Title:** AC Transit Division 4 Modification to Accommodate 45 New Zero Emission Buses (ZEBs) as Part of the ZEB Transition Plan

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**Project Location:** Alameda-Contra Costa County Transit District  
  
Division 4  
1100 Seminary Avenue  
Oakland, CA 94621  
  
Temporary Bus Parking  
6235 Tevis Street  
Oakland CA 94621

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**General Plan Designation:** General Industry and Transportation

**Zoning:** IG (Industrial General) and IG/S-19 (Industrial General/Health & Safety Protection Overlay)

Table of Contents	Initial Study – Preliminary Mitigated Negative Declaration	2
1	Project Description	8
1.1	Project Background	8
1.2	Project Location	10
1.3	Existing Facilities	11
1.4	Project Overview	15
1.5	Proposed Project	15
2	Cumulative Projects	22
3	Project Setting	24
3.1	Oakland Zoning Code	24
3.2	Oakland General Plan	25
3.3	Regional Plans	27
4	Summary of Environmental Effects	29
4.1	Aesthetics	31
4.2	Agriculture and Forestry Resources	35
4.3	Air Quality	37
4.4	Biological Resources	42
4.5	Cultural Resources	48
4.6	Energy	56
4.7	Geology and Soils	61
4.8	Greenhouse Gas Emissions	68
4.9	Hazards and Hazardous Materials	72
4.10	Hydrology and Water Quality	78
4.11	Land Use and Planning	85
4.12	Mineral Resources	87
4.13	Noise	89
4.14	Population and Housing	91
4.15	Public Services	92
4.16	Recreation	93
4.17	Transportation	94
4.18	Tribal Cultural Resources	99
4.19	Utilities and Service Systems	101
4.20	Wildfire	106
4.21	Mandatory Findings of Significance	107

5	Determination .....	109
6	List of Preparers .....	110
6.1	Project Sponsor .....	110
6.2	Environmental Consultants .....	110

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## LIST OF FIGURES

Figure 1: Regional Location of the Proposed Project .....	10
Figure 2: Location of the Project Site .....	11
Figure 3: Existing Conditions Site Plan .....	12
Figure 4: Existing Layout of D4 Site .....	14
Figure 5: Rendering of the Interior of the Concrete Deck .....	16
Figure 6: Cross section of the Proposed Deck at D4 .....	17
Figure 7: Proposed Site Plan for D4 .....	18
Figure 8: Location of the Demolition Areas as part of the Proposed Project .....	19
Figure 9: Location of the Proposed Construction Staging Area and Temporary Bus Parking .....	21
Figure 10: Cumulative Projects .....	23
Figure 11: Zoning in the Proposed Project Vicinity .....	25
Figure 12: Land Use Designation Around Project Site .....	27
Figure 13: Federal and State Listed Threatened, Endangered, and Sensitive Species .....	44
Figure 14: Study Area for Cultural Resources .....	49
Figure 15: Aerial View of the Study Area identifying Eligible NRHP Properties .....	50
Figure 16: Location of resources and sites identified in the NWIC records search .....	51
Figure 17 Projected Bay Area GHG Emissions by Sector Based on State Policies (100-year GWP) .....	69
Figure 18. Alameda County Flood Control and Water Conservation District – Water Features .....	80

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## LIST OF TABLES

Table 1: Fleet Summary per Type of Bus at D4 .....	9
Table 2: Cumulative Projects in a Quarter-Mile Radius of the Project Site .....	22
Table 3 : Air Quality CEQA Threshold of Significance (Project Level) .....	38
Table 4: Construction Emissions .....	40
Table 5: Tailpipe Emissions with Existing Fleet and the Proposed Project in Metric Tons per Year .....	41
Table 6: List of Sensitive Species in a 1-mile Radius of the Project Site .....	43
Table 7: Resources within the NRHP-eligible 57th Avenue Industrial District identified in the NWIC records search. .....	51
Table 8: AC Transit Fleet’s Petroleum Consumption .....	56
Table 9: PG&E 2017 Power Mix .....	57

Table 10: Battery Consumption for BEBs.....	58
Table 11: Greenhouse Gas CEQA Thresholds of Significance (Project Level) .....	69
Table 12: Construction Emissions of Greenhouse Gases.....	70
Table 13: Comparison of CO <sub>2</sub> Emissions in Metric tons per year (MT/year) .....	71

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## ACRONYM LIST

Acronym	Definition
ACE	Altamont Corridor Express
AC Transit; the District	Alameda-Contra Costa Transit District
AB	Assembly
BART	Bay Area Rapid Transit
BEB	Battery Electric Bus
bgs	Below ground surface
BMP	Best Management Practices
BOLT	Battery Optimization Lifecycle Tool
BRT	Bus Rapid Transit
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Corrective Action Plan
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH <sub>4</sub>	Methane
CHRIS	California Historical Resources Information System
CMF	Central Maintenance Facility
CNDDB	California Natural Diversity Database
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
D2	Division 2
D3	Division 3
D4	Division 4
D6	Division 6
DC	Direct Current
dBA	decibel A-weighting
EBMUD	East Bay Municipal Utilities District
ECAP	Oakland's Energy and Climate Action Plan

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EMFAC	Emission Factors Model
FAST	Fairfield and Suisun Transit
FCEB	Fuel Cell Electric Bus
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GWP	Global Warming Potentials
HVAC	Heating Ventilation and Air Conditioning
I-###	Interstate ###
IG	Industrial General
IGP	Industrial General Permit
ISBR	In-Situ Bioreactor
kWh	Kilo Watt Hours
lbs	Pounds
LDN	Day Night Average Sound Level
MGD	Million gallons per day
MM	Mitigation Measure
MT	Million tons
MRZ	Mineral Resource Zone
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
N <sub>2</sub> O	Nitrous Oxide
NO <sub>2</sub>	Nitrogen Dioxide
NRHP	National Register of Historic Place
NWIC	Northwest Information Center
OMC	Oakland Municipal Code
OPR	Office of Planning and Research
PM <sub>2.5</sub>	Particulate matter with diameters generally 2.5 micrometers and smaller
PM <sub>10</sub>	Particulate matter with diameters generally 10 micrometers and smaller
PG&E	Pacific Gas and Electric
ROW	Right-of-Way
S-19	Health and Safety Protection Overlay Zone
SamTrans	San Mateo County Transit District
SB	Senate Bill
SFB-RWQCB	San Francisco Bay Regional Water Quality Control Board
SFMTA	San Francisco Municipal Transportation Authority

SolTrans	Solano County Transit
SO <sub>2</sub>	Sulfur Dioxide
SOC	State of Charge
SP	Service Population
SR	State Route
SRTP	Short-Range Transit Plan
SFB-RWQCB	San Francisco Bay Regional Water Quality Control Board
SWPPP	Stormwater Pollution Prevention Plan
TIRC	Transit and Intercity Rail Capital Program
tpy	Tons per year
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tanks
UWMP	Urban Water Management Plan
VMТ	Vehicle Miles Travelled
VTA	Santa Clara Valley Transportation Authority
WestCAT	Western Contra Costa Transit Authority
ZEB	Zero Emission Bus

## 1 PROJECT DESCRIPTION

### 1.1 PROJECT BACKGROUND

#### 1.1.1 INNOVATIVE CLEAN TRANSIT REGULATION

On December 14, 2018, the California Air Resources Board (CARB) enacted the Innovative Clean Transit regulation, requiring all public transit agencies to gradually transition to a 100 percent zero-emission fleet by 2040. The ruling specifies the timeline for the required annual percentage of new bus procurements that must be zero-emission buses (ZEBs). This schedule is intended to lead to a 100 percent zero-emission fleet by 2040 for all transit agencies in California. Purchase of a cutaway bus, over-the-road bus, double-decker bus, or articulated bus may be deferred until the latter of either January 1, 2026, or until a model of a given type has passed the “Altoona” bus testing procedure and obtained a Bus Testing Report<sup>1</sup>.

#### 1.1.2 AC TRANSIT

Alameda-Contra Costa Transit District (“AC Transit” or “the District”) is a public transit agency primarily serving the western portions of Alameda and Contra Costa counties. The District covers a 364-square-mile area and offers over 150 routes with a fleet of 637 revenue vehicles, serving 22 cities and five counties. AC Transit employs over 2,000 staffs and workers, including over 1,300 bus operators, over 40 management and administration staff, almost 400 maintenance workers, and about 300 staff in other administrative or professional positions.

AC Transit provides services from the following four operating divisions, all of which are supported by the Central Maintenance Facility (CMF):

- Division 2 (D2) in Emeryville
- Division 3 (D3) in Richmond
- Division 4 (D4) in Oakland
- Division 6 (D6) in Hayward
- Central Maintenance Facility (CMF) in Oakland

This environmental document focuses on the proposed project at the D4 site at 1100 Seminary Avenue in Oakland, California, and on an adjacent site to D4 located at 6235 Tevis Street owned by AC Transit.

By summer 2019, AC Transit will have a ZEB fleet of 29 buses, including 24 fuel cell electric buses (FCEBs) and five battery electric buses (BEBs). FCEBs are operated and maintained at the District’s Emeryville Division (D2) and Oakland Division (D4) locations. The District is currently upgrading the hydrogen fueling facility at D2 to accommodate the fueling of 30 FCEBs within the normal daily bus fueling service cycle. The existing hydrogen fueling facility at D4 will support approximately 11 FCEBs.

The District is programmed to receive funding (approximately \$68 million) for an additional 45 ZEBs and supporting infrastructure through Transit and Intercity Rail Capital Program (Caltrans), Senate Bill 1 Local Partnership Program (California State Transportation Commission), and other state and regional funds.

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<sup>1</sup> AC Transit, *Bus Testing Report*, 2019.



### 1.1.3 AC TRANSIT EXISTING FLEET DESCRIPTION

As of June 1<sup>st</sup>, 2019, the existing AC Transit fleet assigned to D4 consists of the following:

**Table 1: Fleet Summary per Type of Bus at D4**

<i>Bus Type</i>	<i>Quantity</i>
<i>60-foot diesel buses</i>	47
<i>45-foot diesel buses</i>	12
<i>40-foot diesel buses</i>	129
<i>40-foot fuel cell buses</i>	10
<i>40-foot battery electric buses</i>	5
<b>Total Fleet</b>	<b>203</b>

*Source: AC Transit, 2019*

### 1.1.4 AC TRANSIT SERVICE AREA

The District encompasses and serves the cities of Oakland, Fremont, Hayward, Berkeley, Richmond, San Leandro, Alameda, Newark, San Pablo, El Cerrito, Albany, Piedmont, and Emeryville, and the unincorporated communities of Contra Costa County (North Richmond, El Sobrante, Rollingwood, Richmond Heights and Kensington) and Alameda County (Ashland, Cherryland, San Lorenzo, Fairview, and Castro Valley). The District's bus lines also serve neighboring communities, including Milpitas, Pinole, and Union City, Menlo Park, Palo Alto, San Mateo, and Foster City.

AC Transit serves many colleges and universities including the University of California, Berkeley; California State University, East Bay; Stanford University; Chabot College; Holy Names University; Peralta Colleges (Laney College, College of Alameda, Berkeley City College, and Merritt College); Contra Costa College; Ohlone College; Northwestern Polytechnic University; and Mills College.

Most routes connect with regional rail service: primarily the Bay Area Rapid Transit (BART), but also Caltrain and the Capitol Corridor and San Joaquin Valley Amtrak services. AC Transit routes also connect with several other regional transit services, including Union City Transit, San Mateo County Transit District (SamTrans), Western Contra Costa Transit Authority (WestCAT), the Santa Clara Valley Transportation Authority (VTA), San Francisco Municipal Transportation Authority (SFMTA), Golden Gate Transit, the Alameda-Oakland Ferry, the Harbor Bay Ferry, Emery Go-Round, Solano County Transit (SolTrans), and Fairfield and Suisun Transit (FAST).

While most AC Transit service consists of local lines throughout the East Bay, the District also provides many express Transbay lines. Most of these lines run across the San Francisco–Oakland Bay Bridge to provide a connection from East Bay communities and destinations on the San Francisco Peninsula. Bus service is also provided across the San Mateo and Dumbarton bridges to the south<sup>2</sup>.

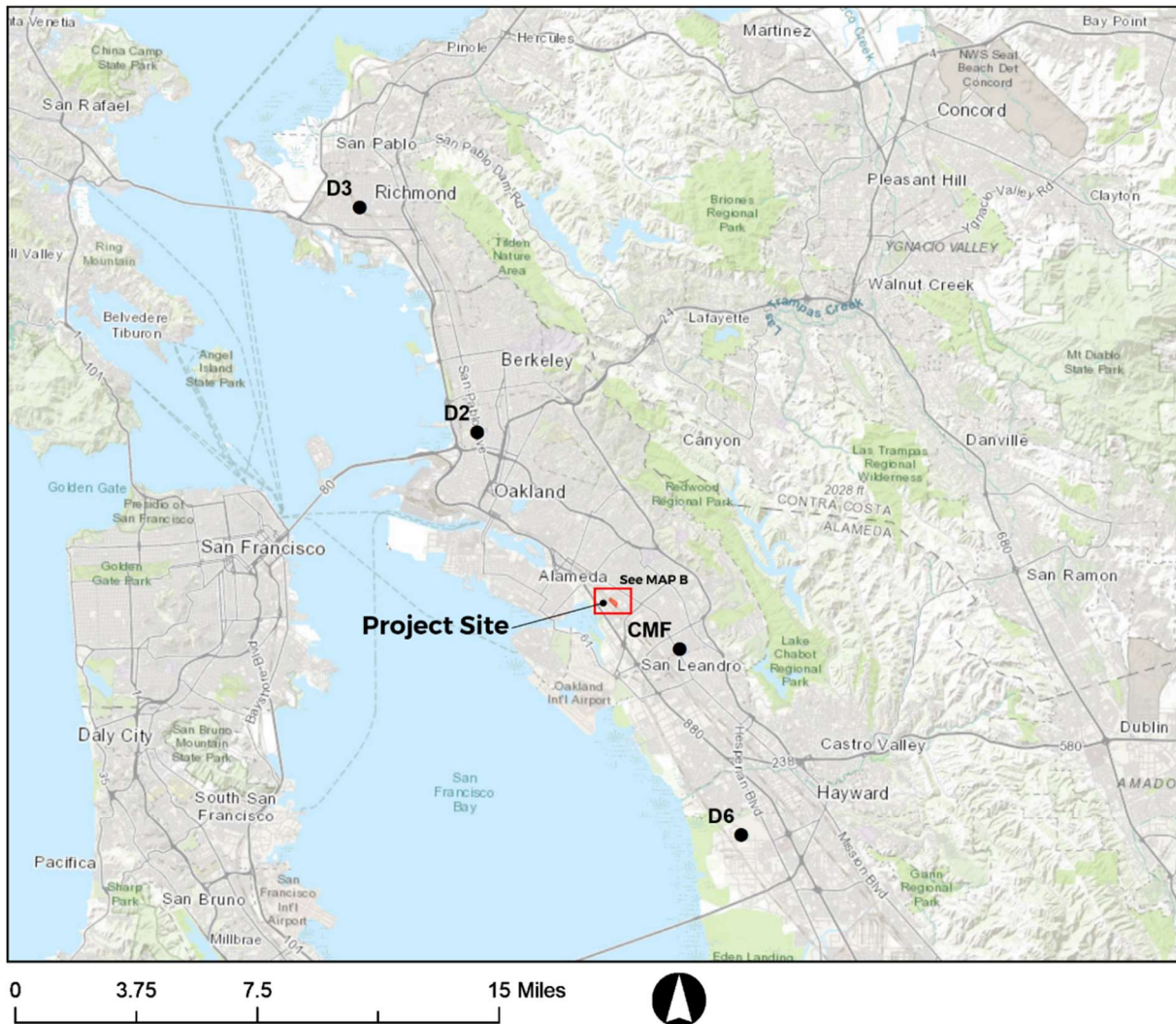
<sup>2</sup> AC Transit Short Range Transit Plan 2014/15-2023/2024, p.5, [http://www.actransit.org/wp-content/uploads/SRTP-2016\\_Jan\\_Final.pdf](http://www.actransit.org/wp-content/uploads/SRTP-2016_Jan_Final.pdf) (accessed on July 31, 2019)

## 1.2 PROJECT LOCATION

### 1.2.1 D4 SITE LOCATION

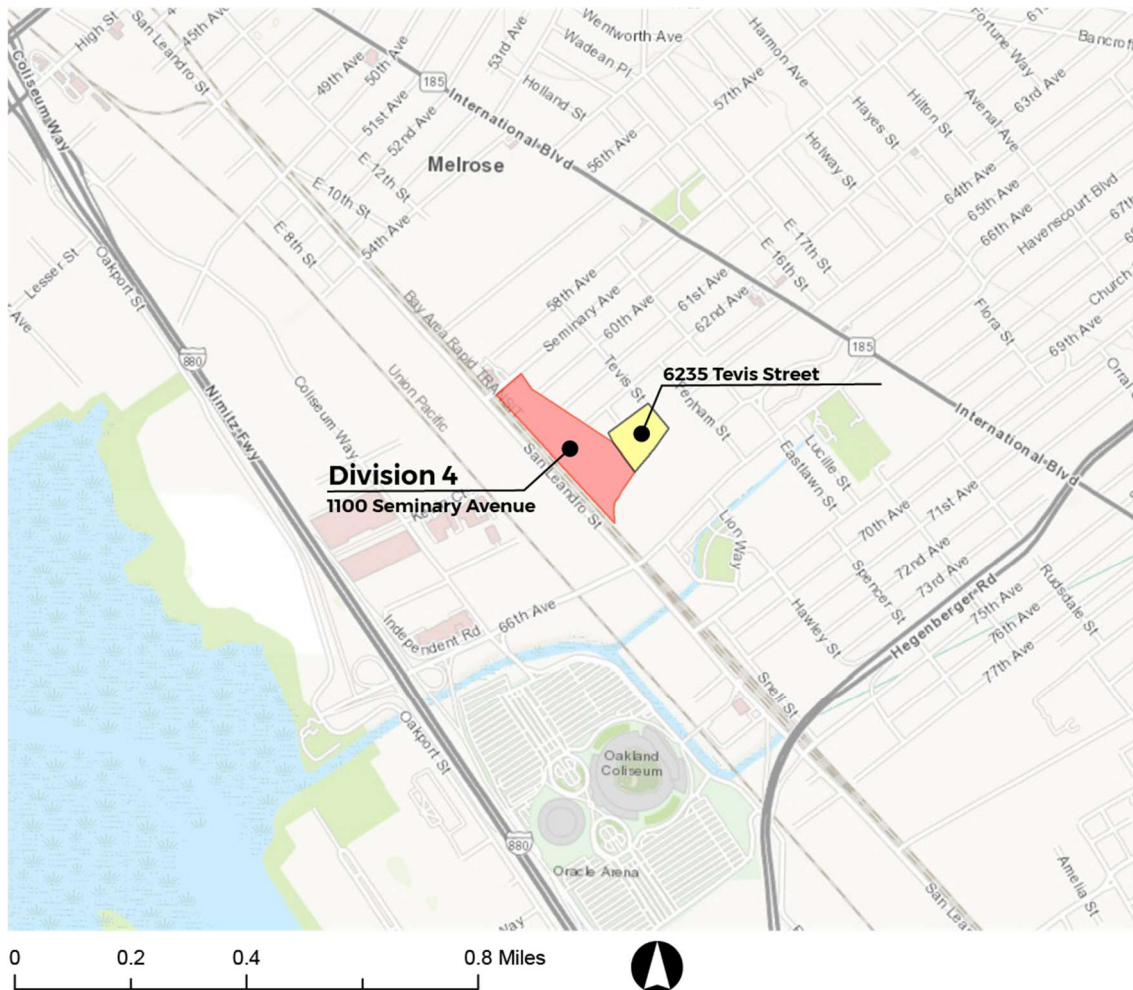
The proposed project is located in the City of Oakland, in Alameda County, at 1100 Seminary Avenue and 6235 Tevis Street (see Figures 1 and 2). Figure 1 identifies the project location in relation with the other AC Transit maintenance facilities.

Figure 1: Regional Location of the Proposed Project



Source: WSP USA, July 2019.

Figure 2: Location of the Project Site



Source: WSP USA, July 2019.

## 1.3 EXISTING FACILITIES

### 1.3.1 PROJECT SITE

The D4 site is located on a 13.7-acre site bounded by Seminary Avenue on the north and the existing BART right-of-way and San Leandro Avenue to the west. The site includes the following existing structures (as numbered on Figure 3):

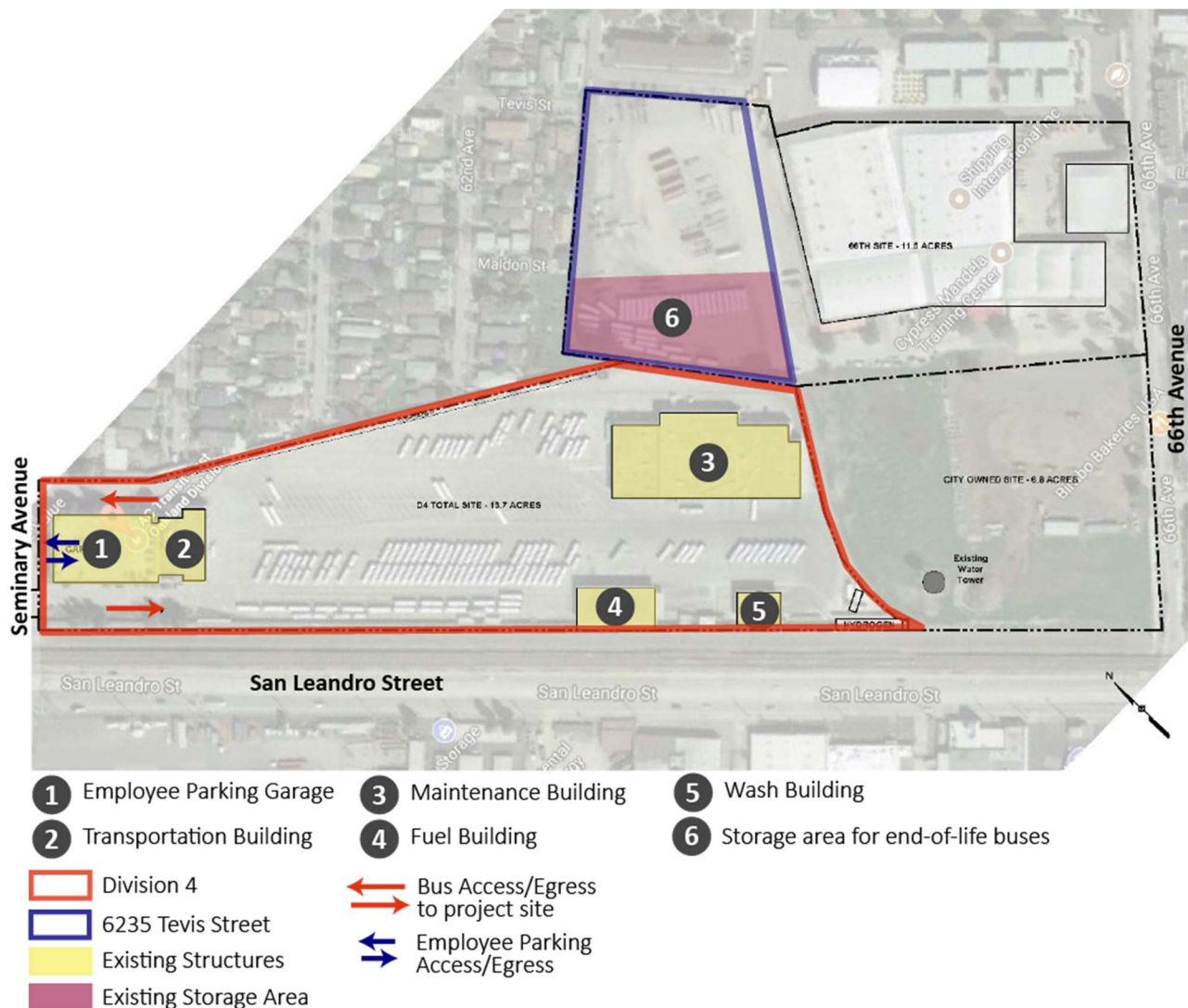
1. **Employee Parking Garage.** At the northern end of the project site, there is a three-level 24,695-square-foot parking structure with 275 vehicle parking spaces for D4 employees, including one vehicle parking space for persons with disabilities.
2. **Transportation Building.** Adjacent to the employee parking garage, there is a two-story 19,096-square-foot office administration building (9,548 square feet per floor). This building includes offices, dispatchers, drivers' facilities, and meeting space.



3. **Maintenance Building.** At the southeastern end of the site, there is a two-story 57,378-square-foot maintenance facility (45,798 square feet on the ground level, 10,580 square feet on a second level). The ground level includes 21 maintenance bays.
4. **Fuel Building.** On the western edge of the site, adjacent to BART right-of-way (ROW), there is a single-level 11,305-square-foot fueling area. The facility includes three canopy-covered fuel lanes, for a total of six diesel fueling positions and two hydrogen fueling positions.
5. **Wash Building.** At the southwestern corner of the site, also adjacent to BART ROW, there is a single-level facility of approximately 4,800 square feet. The facility includes two canopy-covered drive-through bus washers.

The proposed project also includes use of a portion of the 6235 Tevis Street site, a 11.5-acre site to the east also owned by AC Transit. The Tevis Street site is currently used to store end of life buses before they are disposed. It is also rented for truck and container storage. The site is also identified on Figure 3.

Figure 3: Existing Conditions Site Plan



Source: WSP, 2019

The existing facility includes hydrogen fueling and maintenance repair bays designed to accommodate hydrogen-fueled buses. No changes to the hydrogen fueling and maintenance facilities are anticipated as part of this project. A project is underway with five BEBs at Division 4. This includes six charging stations located along the west fence, immediately north of the existing fuel building. This five BEBs project is not included in the current project.

The D4 Site is currently enclosed and screened from the adjacent properties by an approximately 10-foot tall concrete masonry unit wall and the Tevis Street site is enclosed by an approximately 10-foot tall opaque metal fence.

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### **1.3.2 ACCESS POINTS**

The D4 site is currently accessed from Seminary Avenue with inbound bus traffic entering the site immediately west of the employee parking garage and outbound bus traffic leaving the site onto Seminary Avenue immediately east of the employee parking garage. Figure 4 identifies the existing layout of the buses and the onsite circulation at the D4 Site. There is a gate controlling the access and egress of buses from the D4 site

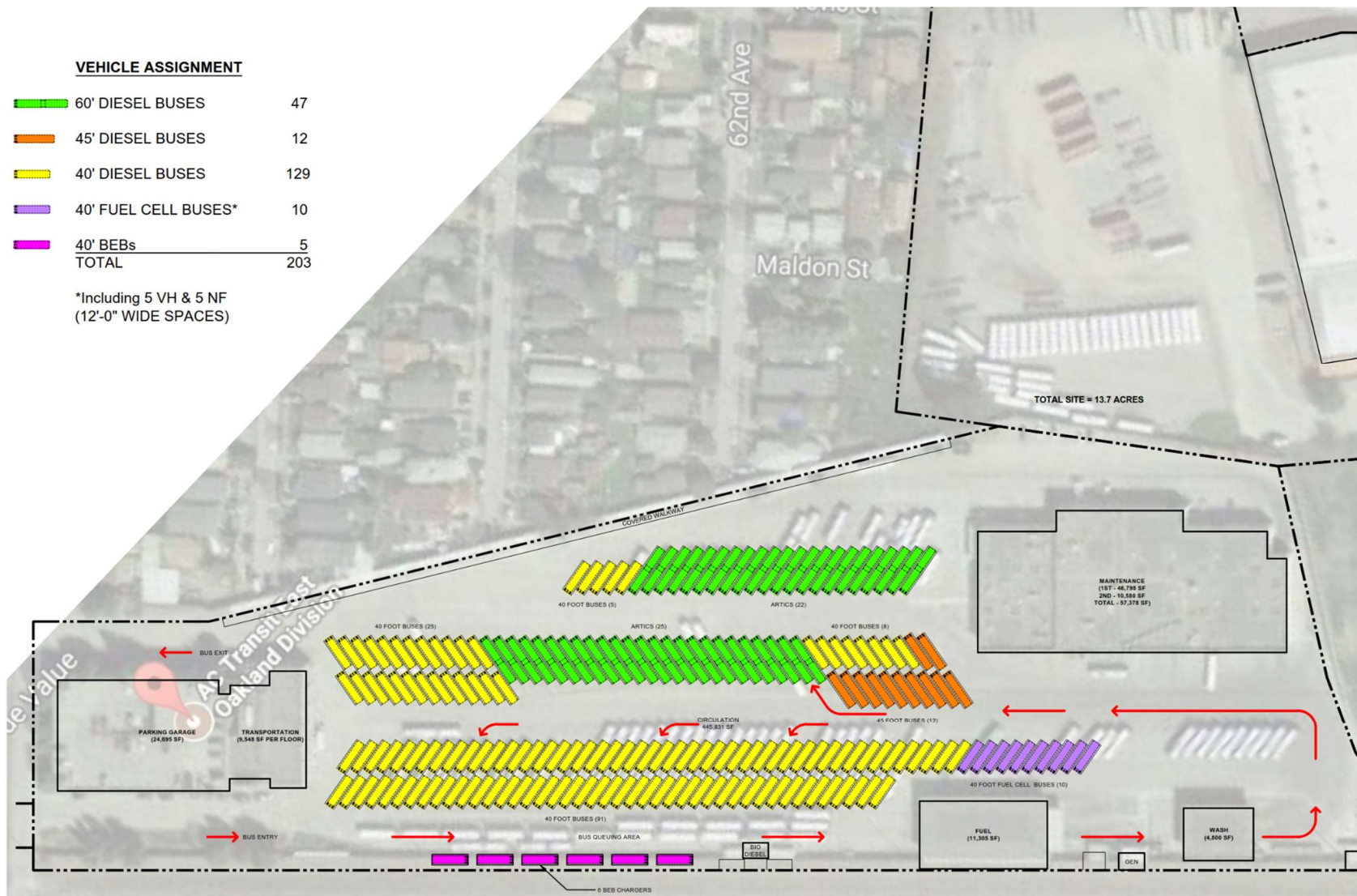
Access to and from the employee parking garage occurs via a driveway leading directly into the garage from Seminary Avenue, between the two bus driveways. The employee parking garage access and egress is separate from the bus driveway. The bus and employee access points are identified on Figure 3 above.

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### **1.3.3 ADJACENT LAND USES**

Adjacent land uses include a single-family residential neighborhood to the northeast, an AC Transit-owned warehouse/storage facility to the southeast, a vacant lot owned by City of Oakland to the south, and a railroad right-of-way operated by Union Pacific that includes an elevated BART line and at-grade rail tracks to the west between the site and San Leandro Avenue.

Figure 4: Existing Layout of D4 Site



Source: WSP USA, 2019.

## 1.4 PROJECT OVERVIEW

### 1.4.1 REPLACEMENT OF DIESEL FLEET WITH NEW ZEBs

As part of the ZEB Transition Plan, the District would procure 45 new ZEBs, including battery electric buses (BEBs) and fuel cell electric buses (FCEBs), that would be based at D2 and D4. The proposed project includes only the ZEBs and associated infrastructure improvements for the D4 Site to accommodate the ZEBs. D2 is not included in this environmental document as no physical improvements would be made to that site. Of the 45 ZEBs, 20 to 40 buses would be assigned to D4, replacing existing diesel buses currently based there.

### 1.4.2 PROPOSED ZEB SERVICE ROUTES

The new ZEB would serve corridors identified in AC Transit Clean Corridor Plan adopted by AC Transit Board on December 13, 2017, and the proposed new service between San Francisco and Emeryville. The AC Transit Clean Corridors Plan recommends several communities and corridors to receive future zero-emissions buses based on their designation as Disadvantaged Communities by the State of California through SB 535. It includes the MacArthur-Grand Corridor and various other routes, which operate in disadvantaged communities.

The proposed San Francisco (Salesforce Transit Center)-Emeryville service would replace the existing Capitol Corridor Amtrak Thruway bus service that runs approximately between 5 a.m. and 12 a.m. daily. Preliminary assumption is that the service will be every ten minutes during weekday peaks and every 15 minutes during the rest of the weekday. The modification of San Francisco-Emeryville service is not covered by this environmental document.

## 1.5 PROPOSED PROJECT

The proposed project will include the onsite infrastructure required to accommodate the projected number of ZEBs. The infrastructure will include additional electrical service, transformers, switchgear, and charging equipment and additional emergency power. The proposed project would include the construction of a new concrete deck that will allow charging of the parked buses with plug-in infrastructure to onsite transformers.

### 1.5.1 NEW FACILITY

#### 1.5.1.1 CONCRETE DECK

Under the proposed project, a new concrete deck would be built to accommodate the new overhead charging station as shown on the cross section on Figure 6. The charging station will be fixed under the deck. It will allow the buses to drive under deck, to park and to connect the charging unit of the bus located on the roof of the bus with the overhead charging station under the deck through a pantograph. The new deck would have the following characteristics:

- The deck would be approximately 35,490 square feet to cover charging equipment and up to 40 buses (as shown on Figure 7).
- The dimensions of the deck are approximately 210 feet by 195 feet less the northeast quadrant measuring 84 feet by 65 feet.
- The structure of the deck would be constructed of pre-cast concrete double-tee beams.
- The deck would be 24 feet-3 inches high at top of the deck.

- The deck would be supported by approximately 24 poured-in-place concrete columns about 2 feet by 4 feet each.
- Each column would be supported by a drilled pier (concrete) approximately 5'-0" in diameter and 42 feet deep.

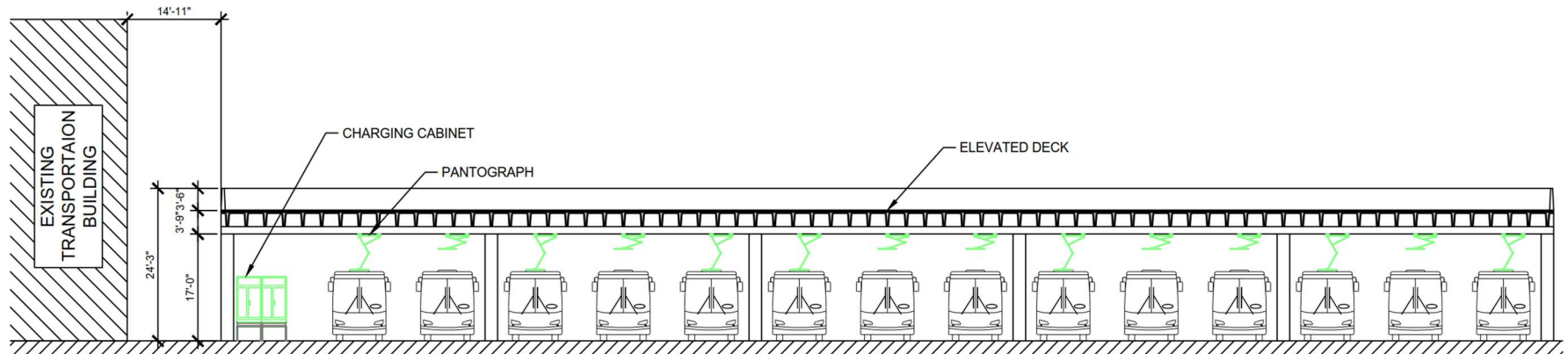
Figure 5: Rendering of the Interior of the Concrete Deck



Source: WSP USA, September 2019.

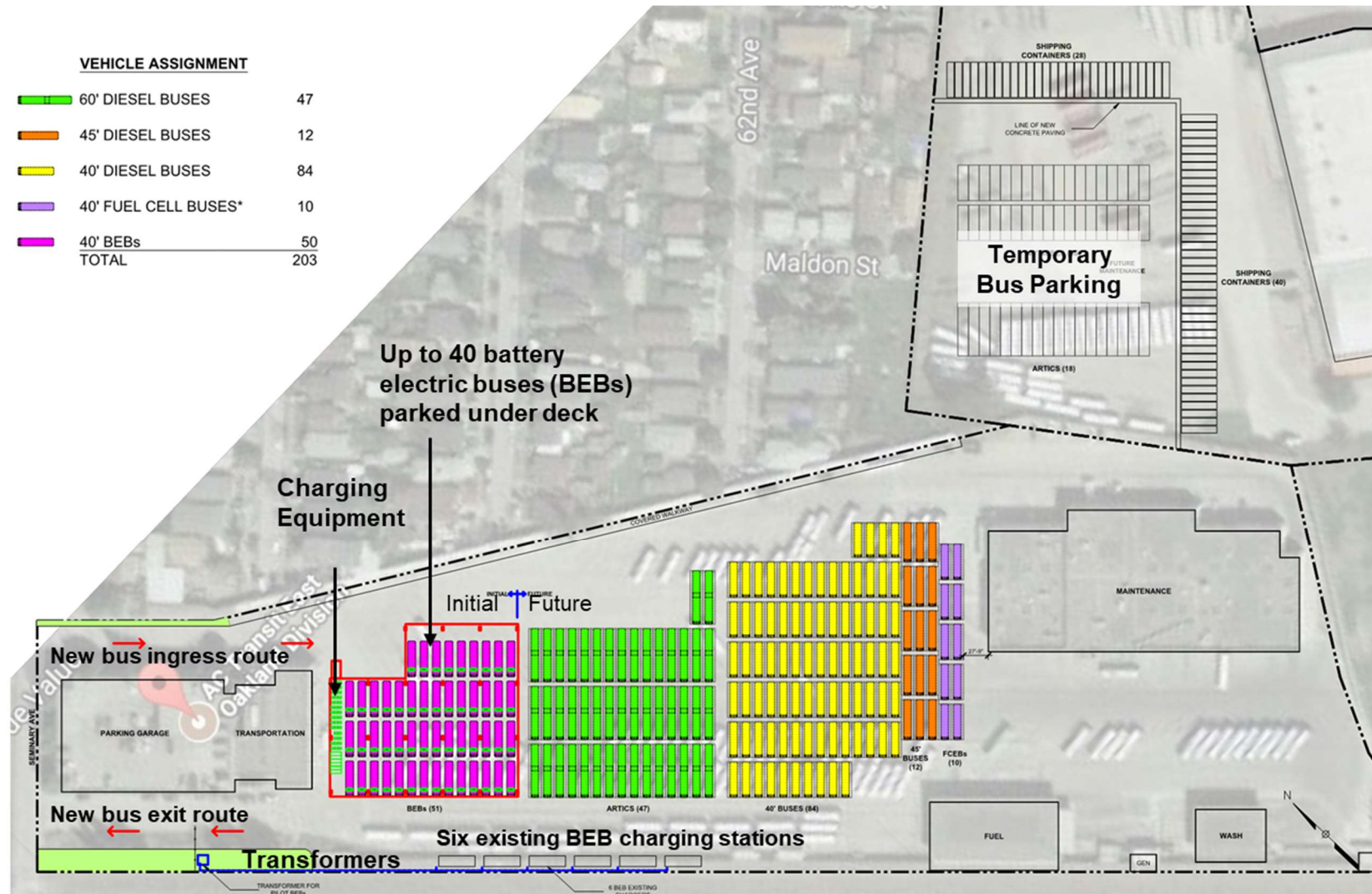


Figure 6: Cross section of the Proposed Deck at D4



Source: WSP USA, July 2019.

Figure 7: Proposed Site Plan for D4



Note: The red lines show the location of the proposed concrete deck.

Source: WSP USA, July 2019.

### 1.5.1.2 ELECTRIC CHARGING STATIONS

New charging equipment would be located under the concrete deck as shown on Figure 7. New transformers would be installed by PG&E to support charging system for new BEBs. The new transformers will be immediately south of the existing transformer.

### 1.5.1.3 PAVING

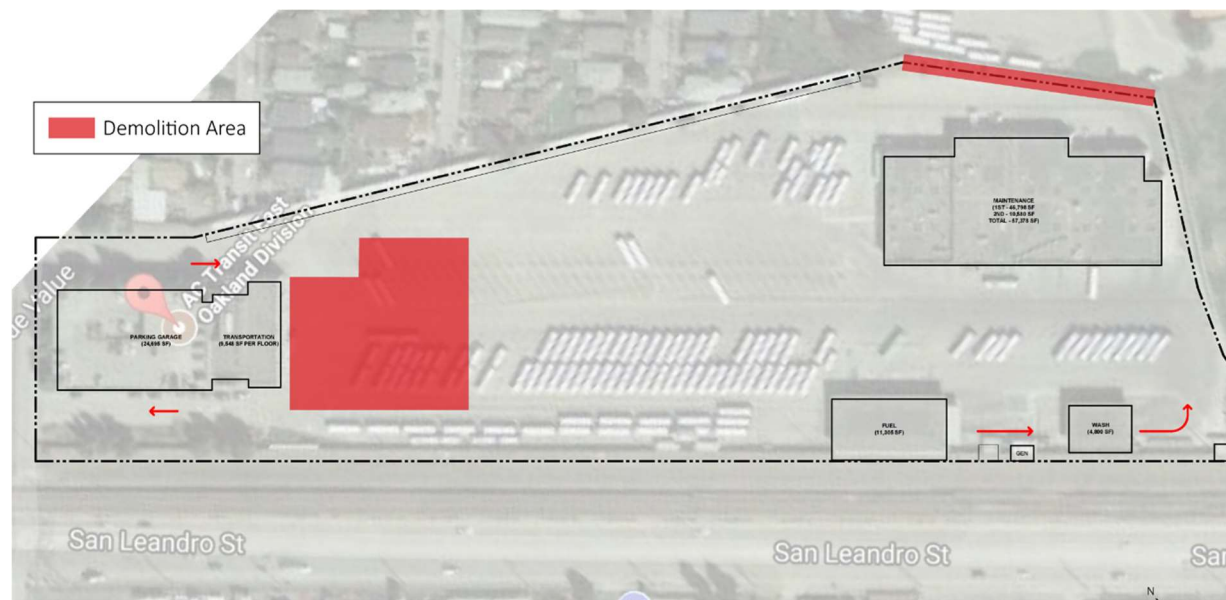
The existing concrete pavement under the area of the proposed deck (approximately 35,490 square feet) plus the existing concrete pavement around the proposed deck (approximately 25,670 square feet) would be demolished and replaced with new concrete pavement, a total of approximately 61,160 square feet of pavement.

During the construction of the concrete decks, the buses that are currently parked at this location will be moved and stored outside revenue hours to the staging area at the adjacent AC Transit site located at 6235 Tevis Street. A portion of the Tevis Site would be paved to accommodate the buses.

## 1.5.2 DEMOLITION

As part of the proposed project, paving under the proposed concrete deck would be removed and replaced. To give access to the temporary bus parking, a portion of the concrete wall would be removed to allow buses circulation between D4 and the temporary bus parking. Demolition areas are identified in Figure 8.

Figure 8: Location of the Demolition Areas as part of the Proposed Project



Source: WSP USA, September 2019.

### 1.5.3 ACCESS POINTS

The inbound and outbound bus access points would be reversed from the existing circulation pattern as part of this project (i.e., inbound access would occur via the drive immediately east of the existing parking garage and outbound access would occur via the driveway immediately west of the existing parking garage), both onto Seminary Avenue as represented on Figure 7.

#### **1.5.4 LANDSCAPING**

As part of the previous five BEBs project, a transformer will be installed in the landscaped area along San Leandro Street wall. It would be expanded as part of the proposed project. The location of the transformer is identified on Figure 7.

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#### **1.5.5 FOUNDATION AND EXCAVATION**

The concrete deck would be supported by approximately 24 poured-in-place concrete columns about 2 feet by 4 feet each. Each column would be supported by a drilled pier (concrete) approximately 5 feet in diameter and 42 feet deep.

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#### **1.5.6 UTILITIES**

Under the proposed project, utilities relocation is not anticipated. New electrical service will be provided to support charging of BEBs. The location and characteristics of the new service are being coordinated with the local electricity power provider, Pacific Gas and Electric (PG&E), and are not covered in this environmental document.

The existing bus parking area periodically collects water (up to about 6 inches deep) in the bus parking area due to the downstream capacity of the stormwater drainage system. During the final design, the drainage will be evaluated to identify potential onsite modifications to reduce or eliminate this periodic ponding in the bus parking area.

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#### **1.5.7 CONSTRUCTION**

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##### **1.5.7.1 SCHEDULE**

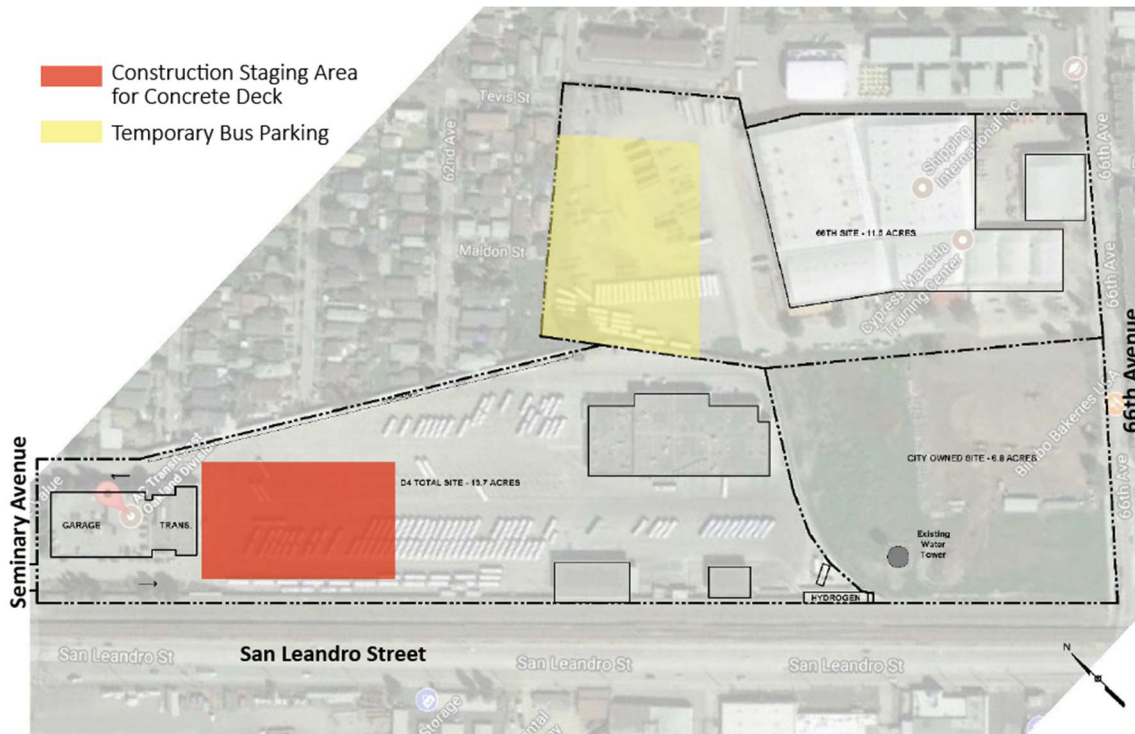
Construction for the infrastructure improvements to accommodate ZEBs is scheduled to start in 2021 in coordination with the delivery of the ZEBs to the D4 Site. The construction is expected to take less than 12 months.

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##### **1.5.7.2 STAGING AREAS AND STORAGE**

The buses currently parked at the location of the proposed concrete deck will be moved and parked on the adjacent AC Transit property at 6235 Tevis Street as identified on Figure 9. Demolition of the wall between the two sites would allow buses to access the Tevis Street site through the D4 Site via Seminary Avenue. The site is currently used to store end-of-life buses and shipping containers. After construction, the site would resume the same pre-construction use. The construction staging area will be located at the concrete deck at the 1100 Seminary Avenue, as identified on Figure 9.

Figure 9: Location of the Proposed Construction Staging Area and Temporary Bus Parking



Source: WSP USA, September 2019.

## 2 CUMULATIVE PROJECTS

Reasonably foreseeable development projects within the vicinity of the project site outside of the AC Transit D4 site are listed in Table 2 and mapped on Figure 10. The list of cumulative projects is the result of a research on the City of Oakland Planning Application Database for Environmental Review done on September 9, 2019. In addition to the cumulative projects identified in Table 2 and Figure 10, the following transportation infrastructure project is also considered part of the cumulative setting:

- International Boulevard Bus Rapid Transit Project (Identified as 1 on Figure 10): The project would implement bus rapid transit improvements along International Boulevard Corridor. The project will include enhanced station lighting for improved safety, Clipper Card readers on platforms speed boarding, new level boarding for easier access, median stations reduce street crossing distance, bus only lanes improve transit frequency, high visibility crosswalks enhance safety. It is currently under construction.

**Table 2: Cumulative Projects in a Quarter-Mile Radius of the Project Site**

	Name	Address	Description
2	GE Site Redevelopment	5441 International Boulevard, Oakland, CA	Request for Environmental review to demolish the existing industrial facilities on the project site, which include CEQA Historic Resources, and construct a new 538,744 square foot industrial warehouse distribution facility
3	Coliseum Area Specific Plan	7000 Coliseum Way, Oakland CA	The Coliseum Area Specific Plan seeks to transform the underutilized land around the Oakland-Alameda County Coliseum and Arena into a world-class sports, entertainment and science & technology district that boasts a dynamic and active urban setting with retail, entertainment, arts, culture, live and work uses <sup>3</sup> .

Source: City of Oakland Planning Records Search between September 9, 2009 and September 9, 2019, <https://aca.accela.com/OAKLAND/Cap/CapHome.aspx?module=Planning&TabName=Planning>

<sup>3</sup> The map below only identifies the location of the Coliseum itself and not the area included in the specific plan. For the Coliseum Area Specific Plan final plan, please visit <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak053757.pdf>



Figure 10: Cumulative Projects



Source: WSP USA, City of Oakland Planning Records Search between September 9, 2009 and September 9, 2019,  
<https://aca.accela.com/OAKLAND/Cap/CapHome.aspx?module=Planning&TabName=Planning>

## 3 PROJECT SETTING

### 3.1 OAKLAND ZONING CODE

#### 3.1.1 ALLOWABLE USES

The proposed project is located in the Industrial General (IG) and Health & Safety Protection Overlay (S-19) zones. As stated in the Oakland Planning Code Chapter 17.73, the IG zone is appropriate for a wide variety of businesses and related commercial and industrial establishments that may have the potential to generate offsite impacts such as noise, light/glare, odor, and traffic. This zone allows heavy industrial and manufacturing uses, transportation facilities, warehousing and distribution, and similar and related supporting uses. Uses that may inhibit such uses, or the expansion thereof, are prohibited<sup>4</sup>. Truck and Other Heavy Vehicles Service, Repair and Refueling activities are permitted in zone IG. Other requirements associated with development within the IG zoning designation are described in the Planning Code Chapter 17.73 (for example, permitted uses, provisions concerning property development, parking, etc.).

The proposed project is also located within the S-19 Health and Safety Protection Overlay Zone. The intent of the overlay is to promote the public health, safety and welfare by ensuring that activities which use hazardous material substances or store hazardous materials, hazardous waste, or explosives are located appropriately and developed in so as not to be a serious threat to the environment or to public health, particularly to residents living adjacent to industrial areas where these materials are commonly used, produced or found<sup>5</sup>. Development standards and requirements within the S-19 overlay are described in the Planning Code Chapter 17.100A.

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<sup>4</sup> Oakland California Planning Code, Chapter 17.73 CIX, IG and IO Industrial Zones Regulations, p.327, <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak061640.pdf> (accessed on June 5, 2019)

<sup>5</sup> Ibid, Chapter 17.100A S-19 Health and safety Protection Combining Zone Regulations, p.424.





processing, heavy impact research and development facilities, and other uses of similar or supporting character. The maximum floor area ratio for this classification is 2.0.

As the “Transportation Hub” of the East Bay<sup>7</sup>, Oakland continues to ensure and to build upon its significant investment and infrastructure. The City of Oakland General Plan takes into consideration the 1996 adoption of the “Transit-First” Resolution (Resolution 73036 C.M.S) declaring Oakland’s support for public transit and other alternatives to single-occupant vehicles. Policies in this element include those that encourage greater transit use through the expediting of transit vehicles on designated transit streets, promoting intermodal transfer stations, encouraging transit-oriented design features in developments served by public transit, encouraging regular maintenance of bus stops and the provision of amenities such as benches and shelters.

Implementation of this project is consistent with the following transportation goals, policies, or objectives of the City of Oakland General Plan:

- Objective E1. Create a Transportation Liaison Committee<sup>8</sup>: The City will coordinate with Caltrans, the Port of Oakland, the Alameda County Congestion Management Agency, the Metropolitan Transportation Commission, and local transportation service providers such as AC Transit and BART to ensure that the existing services and facilities in Oakland are improved, maintained, and preserved.
- Objective T7. Reduce air pollutants caused by vehicles.
  - Policy CO-12.1.<sup>9</sup> While this policy does not necessarily mention the use or implementation of ZEB’s, it outlines strategies for the time it was written in which vehicular emissions could be reduced. This project’s goal to replace diesel buses with ZEB’s supports this policy.
    - Action CO-12.2.2. Use of non-gasoline powered vehicles. As funding permits, convert City fleet vehicles to non-gasoline powered vehicles, such as electric and other alternative energy fueled vehicles.

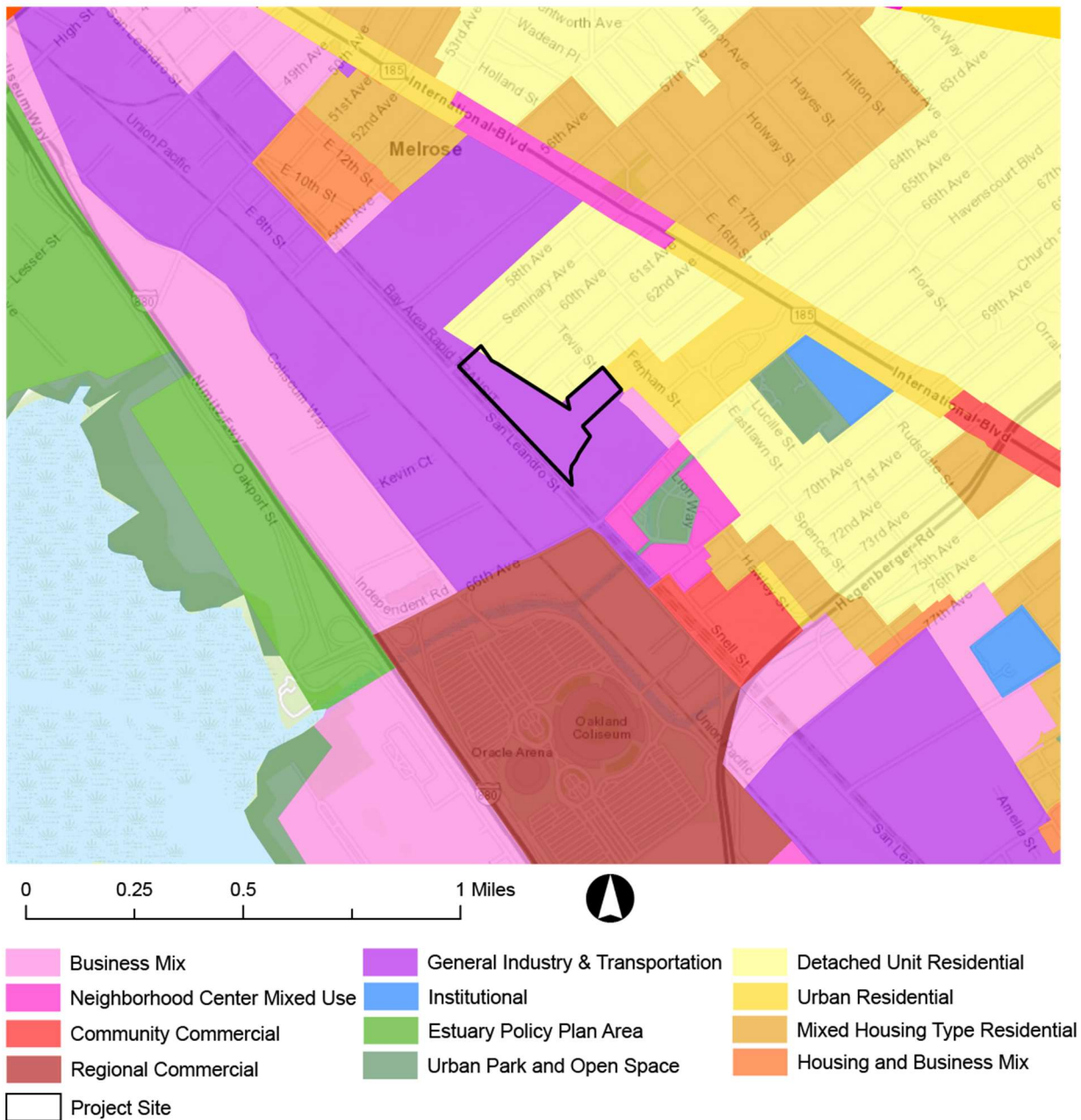
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<sup>7</sup> City of Oakland. Envision Oakland: City of Oakland General Plan, Land Use and Transportation Element. March 1998. <http://www2.oaklandnet.com/government/o/PBN/OurServices/GeneralPlan/DOWD009015> (accessed on July 10, 2019)

<sup>8</sup> City of Oakland. Envision Oakland: City of Oakland General Plan, Land Use and Transportation Element, Chapter 4 Implementation Program. March 1998. <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/webcontent/oak035263.pdf> (accessed on July 10, 2019)

<sup>9</sup> City of Oakland. Envision Oakland: City of Oakland General Plan, Open Space, Recreation, and Conservation Element. Part 2: Conservation. June 1996. <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/webcontent/oak035253.pdf> (accessed on July 10, 2019)

Figure 12: Land Use Designation Around Project Site



Source: City of Oakland, Oakland Online Data, General Plan Land Use, <https://data.oaklandnet.com/dataset/General-Plan-Land-Use/7xy4-dv3x> (accessed on June 5, 2019), Map created by WSP USA, June 2019.

### 3.3 REGIONAL PLANS

#### 3.3.1 AC TRANSIT STRATEGIC PLAN (2019)

The AC Transit Strategic Plan identifies a strategic vision and recommends agency initiatives to advance the strategic vision. The vision is: *AC Transit is valued as a leader that helps the Bay Area thrive by connecting East Bay*

communities to each other and to regional destinations. Implementation of the proposed project would be consistent with and would advance the following AC Transit Strategic Initiatives:

- Initiative 2: Infrastructure Modernization – This initiative would rebuild or replace three operating Division (D2 – Emeryville, D4 – Oakland and D6 – Hayward) to create efficient, state of the art, environmentally sustainable facilities. The goals are to provide safe and secure operations, convenient and reliable service, high-performing workforce and environmental improvement.
- Initiative 4: Zero Emission Programs – The Initiative would begin AC Transit’s implementation of the California Air Resources Board (CARB) mandate to make all California transit buses zero (at vehicle) emissions by 2040. Under the CARB regulation, from 2029 forward, the District could only purchase zero emission buses. The District supports reducing emissions from transit buses as part of their environmental core value<sup>10</sup>.

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### 3.3.2 AC TRANSIT SHORT-RANGE TRANSIT PLAN 2014/15-2023/24

The Short-Range Transit Plan (SRTP) provides a summary of and direction to other planning documents. It incorporates AC Transit’s goals and standards, operating and capital budgets, and service plan. At the same time, it is designed to give direction to future service planning activities and capital projects. The SRTP reflects the 2015 operating and capital budget adopted by the Board of Directors. The SRTP outlines AC Transit efforts to reduce greenhouse gas through the regional Zero-Emissions Bay Area effort<sup>11</sup>. At the time of adoption of the SRTP in 2015, the State didn’t pass the Innovative Clean Transit Regulation and the District didn’t start the Facilities Utilization Plan (See Section 3.3.3 below). Those two items are not reflected in the current SRTP. It does include an Alternate Fuel Enhancement Program funding and a note on the CARB regulation.

Goals within the AC Transit Short-Range Transit Plan 2014/15-2023/24 that support the implementation of the proposed project include:

- Increasing ridership is an overarching goal for AC Transit, recognized in Board Policy 550 (service development). Increasing ridership is also a proposed goal of the SEP.
- Increasing ridership verifies the usefulness of bus service, makes it more efficient, and benefits the environment by reducing auto trips.
- Sustainability, minimizing negative environmental impacts

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### 3.3.3 AC TRANSIT FACILITIES UTILIZATION PLAN

The proposed project is part of a larger program of modernization of all AC Transit maintenance facilities. The Facilities Utilization Plan completed in winter 2019 calls for eventually accommodating 100 percent of the fleet to be assigned to D4 as ZEBs<sup>12</sup>. The Plan also outlines redevelopment and expansion of the D4 facilities to accommodate more buses. Future redevelopment and expansion projects are not covered in this environmental document and would be analyzed separately.

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<sup>10</sup> AC Transit Strategic Plan, April 10, 2019, <http://www.actransit.org/wp-content/uploads/AC-Transit-Report-5.pdf> (accessed on July 31 2019)

<sup>11</sup> AC Transit Short Range Transit Plan, Fiscal Year 2014/2015 - 2023/2024, [http://www.actransit.org/wp-content/uploads/board\\_memos/AC%20Transit%20SRTP%203-19-15%20Reduced.pdf](http://www.actransit.org/wp-content/uploads/board_memos/AC%20Transit%20SRTP%203-19-15%20Reduced.pdf) (accessed on August 18, 2019)

<sup>12</sup> Alameda Contra Costa Transit District, Facilities Utilization Plan Final Report, Oakland, California, January 2019.



## 4 SUMMARY OF ENVIRONMENTAL EFFECTS

The list below, based on the CEQA Guidelines Appendix G, indicates the environmental factors that were studied for the proposed project. Based on the analysis done within an Initial Study, completed for this project, a Mitigated Negative Declaration was determined to be a sufficient environmental document to prepare for the analysis of this proposed project. Environmental topics that are checked below would be potentially affected by this project, but the proposed project will include mitigations that will reduce the impacts to less-than-significant.

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

### AESTHETICS AND PARKING ANALYSIS SENATE BILL 743 AND CEQA SECTION 21099

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. Among other provisions, SB 743 amends CEQA by adding section 21099 regarding analysis of aesthetics and parking impacts for urban infill projects. CEQA section 21099(d) states that, “Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment.” Accordingly, aesthetics and parking are no longer to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all of the following three criteria:

- a) The project is in a transit priority area<sup>13</sup>;
- b) The project is on an infill site<sup>14</sup>;
- c) The project is residential, mixed-use residential, or an employment center<sup>15</sup>.

<sup>13</sup> According to SB 743, a “transit priority is defined in as an area within one-half mile of an existing or planned major transit stop. A “major transit stop” is defined in Section 21099 of the California Public Resources Code as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.” It is mapped by the Metropolitan Transportation agency for the San Francisco Bay Area:  
([http://opendata.mtc.ca.gov/datasets/d97b4f72543a40b2b85d59ac085e01a0\\_0?geometry=-122.52%2C37.712%2C-121.867%2C37.807](http://opendata.mtc.ca.gov/datasets/d97b4f72543a40b2b85d59ac085e01a0_0?geometry=-122.52%2C37.712%2C-121.867%2C37.807))

<sup>14</sup> According to SB 743 an “infill site means a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses.”

<sup>15</sup> According to SB 743, an “employment center project means a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area.”

The proposed project does not meet all of the above criteria since the project site is partially and not fully located in a transit priority area and that the proposed project does not qualify as an employment center. Section 5.1, Aesthetics, evaluates whether the project would result in a significant CEQA impact on aesthetics. Section 5.18, Transportation, evaluates whether the project would result in a significant CEQA impact on parking.

#### **AUTOMOBILE DELAY AND VEHICLE MILES TRAVELED (VMT) ANALYSIS**

In addition, CEQA section 21099(b)(1) requires that the state Office of Planning and Research develop revisions to the CEQA guidelines establishing criteria for determining the significance of transportation impacts of projects that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” CEQA section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to CEQA section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment under CEQA.

In January 2016, the State Office of Planning and Research published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA<sup>16</sup> recommending that transportation impacts for projects be measured using a vehicle miles traveled (VMT) metric. On March 3, 2016, in anticipation of the future certification of the revised CEQA guidelines, the City of Oakland Planning Commission adopted the State Office of Planning and Research’s recommendation to use the VMT metric instead of automobile delay to evaluate the transportation impacts of projects on September 21, 2016. (Note: the VMT metric does not apply to the analysis of impacts on non-automobile modes of travel such as riding transit, walking, and bicycling.)

Accordingly, the environmental document does not contain a discussion of automobile delay impacts. Instead, a VMT and induced automobile travel impacts analysis is provided in Section 5.18, Transportation. The topic of automobile delay, nonetheless, may be considered by decision-makers, independent of the environmental review process, as part of their decision to approve, modify, or disapprove the proposed project.

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<sup>16</sup> Governor’s Office of Planning and Research, Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA - Implementing Senate Bill 743 (Steinberg, 2013), January 22, 2016, [http://www.opr.ca.gov/docs/Revised\\_VMT\\_CEQA\\_Guidelines\\_Proposal\\_January\\_20\\_2016.pdf](http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf), accessed on November 8, 2017.

## 4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.1.1 EXISTING CONDITIONS

The proposed project site, 1100 Seminary Avenue and 6235 Tevis Street, is located in an urbanized part of Oakland surrounded by buildings and transportation infrastructure. From the adjacent residential cul-de-sacs, a concrete brick wall shields the neighborhood from the view of the bus parking lot. The existing employee parking structure is visible above the brick wall from the vantage point of these streets, with 60<sup>th</sup> Avenue having the most unobstructed view of the structure's northern face. Mature evergreen trees line the Seminary Avenue side of the parking structure, with more mature pine and shrubbery lining the east and west driveways along Seminary Avenue. The BART viaduct is visible from Seminary Avenue on the southeast side of the rail road tracks that run parallel to San Leandro Street. Warehouses, industrial storage lots, utility lines and billboards are the most prominent features visible from the streetscape.

### 4.1.2 IMPACTS ANALYSIS

#### a) The proposed project would not have a substantial adverse effect on a scenic vista.

Scenic vistas are views from public areas that generally encompass a wide area with long-range views to surrounding elements in the landscape. Scenic vista views are often of local and regional value. Such views are often visible because of a flat landscape with little vegetation or an elevated viewing point that allows for views out and

over the surrounding landscape. Vistas also have a directional range, which is to say that some viewpoints have scenic vistas with a 360-degree view in all directions, while others may be limited in one direction in a manner that reduces the line-of-sight, angle, and amount of vista that is visible.

The Oakland Comprehensive Plan identifies the Scenic Highways in Oakland. The MacArthur Corridor and Skyline Boulevard are identified as Scenic Highways in the Oakland Comprehensive Plan. None of those designated highways are in the vicinity of the proposed project site<sup>17</sup>.

The California Department of Transportation identifies State Scenic Highways. In Alameda County, the Interstate 580 (I-580), the Interstate 680 (I-680) and the State Route 84 (SR-84) are either officially designated State Scenic Highways (SR-84 and part of I-680 and I-580) or Eligible State Scenic Highways – Not Officially Designated (part of I-680 and I-580). None of those highways are in the vicinity of the project site<sup>18</sup>.

Since the proposed project is not located in the vicinity of a local designated scenic highway nor a State Scenic Highways, the proposed project would not have the potential to block views along these highways. The ZEBs could run on those designated scenic highways or state scenic highways but buses already runs and no physical improvements associated with the proposed project will occur on various corridors. Therefore, the proposed project would not have a substantial adverse effect on a scenic vista. No impact would occur and no mitigation is required.

**b) The proposed project would not damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.**

A scenic resource is a site, object, or landscape feature that contributes to the visual character of the surrounding area or is important because of its visual characteristics or scenic qualities. Scenic resources are elements in the environment such as topographic features, trees, rock outcroppings, or other features of the built or natural environment that contribute to a scenic public setting. Scenic resources may be protected by federal, state, or local regulations or highly valued by the local community.

The Oakland Municipal Code 15.52<sup>19</sup> allows trees or vegetation which obstruct a protected public view corridor to be removed or altered to eliminate or minimize view obstruction in conjunction with development of said property per the vegetation management prescriptions for the North Oakland Hill Area Specific Plan. No public view corridor would be impacted by the proposed project, and the existing trees on the site would not be impacted by the proposed project.

The City of Oakland's General Plan Open Space, Conservation and Recreation Element includes Objective CO-7 to minimize the loss of native plant communities and to restore these communities where they have been damaged and lost. This also includes the preservation of Oakland's trees unless they are compelling safety, ecological, public safety, or aesthetic reasons for their removal. Policy CO-7.4 discourages the removal of large trees on already developed sites unless removal is required for biological, public safety, or public works reasons. No trees would be removed from the site for the proposed project. All trees on the site are located around the employee parking

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<sup>17</sup> Oakland Comprehensive Plan, Scenic Highway, <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/webcontent/dowd009021.pdf> (accessed on June 5, 2019)

<sup>18</sup> Caltrans Scenic Highways Mapping System, Alameda County, [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/index.htm](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm) (accessed on June 5, 2019)

<sup>19</sup> City of Oakland. Municipal Code. Code 15.52.040 Obstruction of view corridors. [https://library.municode.com/ca/oakland/codes/code\\_of\\_ordinances?nodeId=TIT15BUCO\\_CH15.52VI\\_15.52.040OBVICO](https://library.municode.com/ca/oakland/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.52VI_15.52.040OBVICO) Accessed July 15, 2019.



structure, and along landscaping lining the east and west driveways on Seminary Avenue. Construction would be limited to the surface parking lot that currently exists between the parking structure and the maintenance facility.

As shown in Figure 6, p.17, the deck would not be higher than the existing transportation building directly adjacent. Therefore, the proposed structure would not obstruct views from the adjacent streets.

Furthermore, as discussed in *Section 4.5 Cultural Resources*, there are no historic building on the project site. Since no scenic resource exist in the vicinity of the proposed project, there would be no impacts to any scenic resources through the construction of the deck, replacement of the existing concrete pavement, or installation of the new transformer infrastructure. Therefore, there would be no impact to scenic resources. No mitigation is required.

**c) The proposed project is located in an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality.**

The proposed infrastructure's use is consistent with the current land use and zoning of the site and would not conflict with the density or intensity regulations set by the City (see Figure 6, p.17 for the proposed height of the deck). The scenic quality of the site would not change drastically with the construction of the deck on an existing surface lot, except with the introduction of vertical infrastructure where there is currently none. The deck's height would still be below the height of the site's surrounding walls, and therefore will only be visible from the vantage point of the site itself. Oakland's Municipal Code 15.52 governs views as it relates to trees; as detailed above, trees would not be removed or planted in a way that would conflict with regulations governing scenic quality.

Therefore, the proposed project would have no impact on the scenic quality of the site. No mitigation is required.

**d) The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

*Construction*

Most of the construction would take place during day time and would not require any lighting. If some nighttime construction is required, some lighting might be needed to illuminate work areas and to ensure safety and security for workers. The lighting would be directed downward and focused on work site activities and areas. Some signage, equipment, and staged construction materials may have the potential to reflect light during certain times of the day. However, the effects would be limited and temporary in duration. Lighting from construction would occur during operational hours, per the City's municipal code. It would not impact the adjacent residential neighborhoods located along the northern side of the site with implementation of applicable regulations by the contractors.

*Operation*

Under existing conditions, tower lights illuminate the bus parking. The lights are directed downward to the surface parking. Under the proposed project conditions, the lights would be incorporated into the deck structure facing downward and would be located under the canopy. The proposed deck would shield the lights to glare in the adjacent neighborhood which would generate a positive impact. Furthermore, the lighting associated with proposed deck would be consistent with lighting and design guidelines from the City.

Lighting would not be in use during daytime hours. A new source of glare would not be introduced with the implementation of the applicable design standards for the new infrastructure.

Since the new buses will replace older diesel buses in kind and there would be no net increase of buses at the site, the new buses would not generate new sources of lighting or glare more than what currently exists with the diesel buses. The new bus fleet would not introduce additional lighting sources compared with existing conditions. While in the maintenance facility, the walls along the northern and northeastern sides of the site would shield the adjacent residential properties from the headlights of the buses within the lot. Therefore, the proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area and impacts would have no impact. No mitigation is required.

## 4.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural 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 Forest 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) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is located within an urbanized area of the city of Oakland. The project site has not been designated by the California Department of Conservation's Farmland Mapping and Monitoring Program as agricultural land<sup>20</sup>. As

<sup>20</sup> California Department of Conservation, California Important Farmland Finder <https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed on June 5, 2019)

the project site does not contain agricultural uses and is not zoned for such uses, the proposed project would not require the conversion of any land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. The proposed project would not conflict with any existing agricultural zoning or Williamson Act contracts<sup>21</sup>. The proposed project is not located in a land designated as Forest Land, Timberland, or Timberland Production as defined in Public Resources Code section 12220(g), Public Resources Code Section 4526, and Public Resources Code section 51104(g), respectively. Therefore, the proposed project would not conflict with zoning for forest land, cause a loss of forest land, or convert forest land to a different use. For these reasons, there would be no impacts for topic a), b), c), d) and e).

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<sup>21</sup> The Williamson Act is a California law enacted in 1965 that provides property tax relief to owners of farmland and open space land in exchange for a 10-year agreement that the land will not be developed or converted into another use.

### 4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district 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 checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.3.1 BACKGROUND INFORMATION

The Bay Area Air Quality Management District (air district) is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin (air basin), which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa counties and portions of Sonoma and Solano counties. The air district is responsible for attaining and maintaining air quality in the air basin within federal and state air quality standards, as established by the federal Clean Air Act and the California Clean Air Act, respectively. Specifically, the air district has the responsibility to monitor ambient air pollutant levels throughout the air basin and to develop and implement strategies to attain the applicable federal and state standards. The federal and state clean air acts require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 Clean Air Plan), was adopted by the air district on April 19, 2017. The 2017 Clean Air Plan updates the 2010 Clean Air Plan in accordance with the requirements of the state clean air act to implement all feasible measures to reduce ozone; provide a control strategy to reduce emissions of ozone, particulate matter, and toxic air contaminants; serve as a regional climate protection strategy by reducing greenhouse gases in a single, integrated plan; and establish emission-control measures to be adopted or implemented.

#### 4.3.2 CRITERIA AIR POLLUTANTS

In accordance with the state and federal clean air acts, air pollutant standards are identified for the following six criteria air pollutants:

- 1) Ozone;
- 2) Carbon monoxide (CO);

- 3) Particulate matter;
- 4) Nitrogen Dioxide (NO<sub>2</sub>);
- 5) Sulfur dioxide (SO<sub>2</sub>), and;
- 6) Lead.

These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the air basin experiences low concentrations of most pollutants when compared to federal or state standards. The air basin is designated as either in attainment or unclassified for most criteria pollutants except for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, for which these pollutants are designated as non-attainment for either the state or federal standards. By nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standard. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant<sup>22</sup>.

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the air basin.

**Table 3 : Air Quality CEQA Threshold of Significance (Project Level)**

<i>Pollutant</i>	<i>Construction Related</i>	<i>Operational Related</i>	
<i>Criteria Air Pollutants and Precursors (Regional)</i>	<i>Average Daily Emissions (lb/day)</i>	<i>Average Daily Emissions (lb/day)</i>	<i>Maximum Annual Emissions (tpy)</i>
<i>ROG</i>	54	54	10
<i>NO<sub>x</sub></i>	54	54	10
<i>PM<sub>10</sub></i>	82 (exhaust)	82	15
<i>PM<sub>2.5</sub></i>	54 (exhaust)	54	10
<i>PM<sub>10</sub>/PM<sub>2.5</sub> (fugitive dust)</i>	Best Management Practice	None	
<i>Local CO</i>	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
<i>Risk and Hazards for new sources and receptors (Cumulative Threshold)</i>	Same as operational threshold	Compliance with Qualified Community Risk Reduction Plan <b>OR</b> Cancer: > 100 in 1 million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM <sub>2.5</sub> : > 0.8 µg/m <sup>3</sup> annual average (from all local sources) <u>Zone of Influence</u> : 1,000-foot radius from property line of source or receptor	
<i>Accidental Release of Acutely Hazardous Air Pollutants</i>	None	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant	

<sup>22</sup> Bay Area Air Quality Management District, California Environmental Quality Act (CEQA) Air Quality Guidelines, May 2017, page 2-1, [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en) (accessed on June 17, 2019),

<i>Pollutant</i>	<i>Construction Related</i>	<i>Operational Related</i>
<i>Odors</i>	None	Five confirmed complaints per year averaged over three years

*CO: Carbon Monoxide, CO<sub>2e</sub>: carbon dioxide equivalent, lb/day: pound per day, MT: Metric Tons, NO<sub>x</sub>: oxides of nitrogen, PM<sub>2.5</sub>: fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less, PM<sub>10</sub>: respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less, ppm: parts per million, ROG: reactive organic gases, SO<sub>2</sub>: sulfur dioxide, SP: Service Population, TACs: toxic air contaminants, TBP: toxic best practices, TBP: toxic best practices, tons/day: tons per day, tpy: tons per year.*

*Source: Bay Area Air Quality Management District, Air Quality CEQA Guideline, Table 2-1, p. 2-3  
[http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en) (accessed on June 17, 2019)*

### 4.3.3 IMPACTS ANALYSIS

**a) The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.**

The applicable air quality plan is the Bay Area 2017 Clean Air Plan: Spare the Air, Cool the Climate. The plan focuses on two closely-related goal: protecting the public health and protecting the climate. Consistent with the GHG reduction targets adopted by the State of California, the plan lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. A project that would not result in significant and unavoidable air quality impacts may be considered consistent with the Bay Area 2017 Clean Air Plan. The BAAQMD proposed thresholds are included in Table 3, for comparison purposes. As seen in the modeled data in Table 4 and Table 5 and described in topic b), construction and operation emissions would not exceed the proposed thresholds for the proposed project. In fact, the proposed project would reduce operation emissions which result in a positive impact on air quality and is consistent with the Bay Area 2017 Clean Air Plan. Therefore, the proposed project would not conflict with or obstruct the implementation of the Bay Area 2017 Clean Air Plan. Impacts would then be considered less than significant. No mitigation is required.

**b) The proposed project would not 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.**

#### *Construction Emissions*

There is a potential for temporary and short-term increase in air quality degradation during construction of the project due to construction related activities at D4. Construction activities, such as grading, paving, and the assembly of materials such as wood, steel, and paint, may have a temporary increase in objectionable odors that may impact those in the general vicinity of the project area. Dust may be generated from construction activities, such as during excavation and other ground disturbing activities, that may cause a temporary increase in air pollutants in the general vicinity. Measures such as watering down the dirt prior to excavation, covering excavated dirt piles on the site and on transportation vehicles, and limiting these activities to smaller disturbed areas at a time could minimize the amount of dust that is active in the air. Limiting the speed at which vehicles coming in and out of the site, as well as providing wet vacuum street sweepers on adjacent public roads once a day may decrease dust in the air. All driveways, roadways, and sidewalks to be paved would be completed as soon as possible. Construction vehicles and equipment may also be a source of exhaust emissions, including criteria pollutants, during the construction process of implementing the project. Emissions from delivery trucks and workers' commute vehicles would also be temporary.

Construction-related emissions were estimated using a typical phasing schedule and defaults included in the California Emissions Estimator Model (CalEEMod). CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant and greenhouse gas emissions associated with both construction and operations from a variety of land use projects. CalEEMod was run assuming two land use type options: “General Light Industry” with a size of 35,490 square feet to represent the new deck and “Parking Lot” with a size of 61,160 square feet to account for repaving under the deck and surrounding area, and all other recommended defaults<sup>23</sup>. The estimated daily project emissions from construction are presented in Table 4. Due to the short-term nature of these emissions and their compliance with available significance thresholds, impacts would be less than significant. The project would not violate any air quality standard or contribute significantly to an existing or projected air quality violation. No mitigation is required.

**Table 4: Construction Emissions**

	Emissions (lbs/day)					
	ROG	NOX	CO	PM <sub>10</sub> (exhaust)	PM <sub>2.5</sub> (exhaust)	SO <sub>x</sub>
Maximum Daily Emissions	39.8	20.2	16.0	1.0	1.0	<0.1
BAAQMD Thresholds	54	54	N/A	82	54	N/A
Threshold Exceeded?	No	No	N/A	No	No	N/A

N/A = not applicable; no BAAQMD threshold for CO or SO<sub>x</sub>

Source: WSP USA, July 2019

#### Operational Emissions

As discussed in the project description, the proposed project would not increase the number of buses but would replace existing diesel buses with zero emission models. The proposed modification would have a generally beneficial impact since it would remove diesel buses from the priority corridors in areas designated as disadvantaged communities through Senate Bill 535. As discussed in the Innovative Clean Transit Final Environmental Analysis<sup>24</sup>, the Innovative Clean Transit replaces the existing Transit Fleet Rule and would reduce tail pipe emissions throughout the vehicle’s typical 14-year lifetime. The Innovative Clean Transit achieves criteria air pollutant emission reductions from public transit through replacement of buses with compressed natural gas vehicle internal combustion engines with ZEBs and forwards the State’s goals of meeting the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

For the proposed project, the reduction in particulate matter and NO<sub>x</sub> emissions was calculated using the California Air Resource Board (CARB) EMFAC2014 Web Database<sup>25</sup>. The oldest active 40-foot diesel buses in the existing AC Transit fleet were delivered from 2003 through 2005. Assuming the new BEBs or FCEBs would replace older model year buses, EMFAC was run for a model year 2005 urban transit bus. It was assumed each bus travels approximately

<sup>23</sup> WSP USA, Table 2.0 “Overall Construction-unmitigated” emissions. CalEEMod worksheets.

<sup>24</sup> Innovative Clean Transit Final Environmental Analysis, [https://www.arb.ca.gov/regact/2018/ict2018/ictfinalea.pdf?\\_ga=2.81225237.328671763.1560793152-1376242264.1553538379](https://www.arb.ca.gov/regact/2018/ict2018/ictfinalea.pdf?_ga=2.81225237.328671763.1560793152-1376242264.1553538379) (accessed on June 17, 2019)

<sup>25</sup> California Air Resource Board, EMFAC 2014 Web Database, <https://www.arb.ca.gov/emfac/2014/> (accessed on July 11, 2019)



40,000 miles per year at an average speed of 15 miles per hour. Table 5 list a summary of the conditions with the existing buses compared with the lower bound of 20 BEBs or higher bound of 40 BEBs. Both options lead to a reduction of particulate matter and NOx emissions from tailpipe. Particulate matter is also produced by brake wear and tire wear, but those emissions would not change due to the project. Therefore, impacts would be less than significant. The project would not violate any air quality standard or contribute significantly to an existing or projected air quality.

**Table 5: Tailpipe Emissions with Existing Fleet and the Proposed Project in Metric Tons per Year**

<i>Pollutant</i>	<i>Existing Condition (20 Diesel Buses)</i>	<i>Existing Condition (40 Diesel Buses)</i>	<i>Proposed Project (20 BEBs)</i>	<i>Proposed Project (40 BEBs)</i>
<i>ROG</i>	1.0	2.1	0	0
<i>NOX</i>	13.2	13.4	0	0
<i>CO</i>	6.7	26.5	0	0
<i>PM<sub>10</sub></i>	0.06	0.11	0	0
<i>PM<sub>2.5</sub></i>	0.05	0.11	0	0
<i>Thresholds Exceeded?</i>	N/A	N/A	No	No

*Source: Calculation done by WSP USA, July 2019 with emission factors from California Air Resource Board, EMFAC 2014 Web Database, <https://www.arb.ca.gov/emfac/2014/> (accessed on July 11, 2019)*

**a) The proposed project would not expose sensitive receptors to substantial pollutant concentration.**

*Construction Impacts*

Due to their proximity to the project, sensitive receptors in the project vicinity will not be exposed to increases in criteria air pollutants as a result of fugitive dust and increased equipment use in the area. These emissions will be short term, and will occur only during the construction phase. Impacts would be less than significant and no mitigation is required.

*Operational Impacts*

As explained in item b), the proposed project would result in a decrease in pollutant emissions from bus exhaust during project operation. Any sensitive receptors in the project vicinity would be exposed to reduced pollutant concentrations from bus exhaust as compared to existing conditions. Therefore, there would be no impact.

**b) The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people**

Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. It is not anticipated that the conversion of up to 40 diesel buses to ZEBs at the D4 site would generate an increase in objectionable odors affecting people in and around the site. Any objectionable odors in the area will be short-term, and would occur only during the construction phase. Therefore, there would be less-than-significant impacts. No mitigation is required.

#### 4.4 BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.4.1 EXISTING CONDITIONS

The project area is in a dense urban area, bounded by paved streets (Seminary Avenue and San Leandro Street), the BART viaduct, an existing residential development, and existing commercial buildings. The site is paved with a concrete surface used to park the AC Transit buses and the rest of site is occupied by the maintenance building. There are existing areas of landscaping with trees along Seminary Avenue and the BART tracks. The project site is bounded by a concrete wall on all sides.

The Tevis Street Site, where temporary parking is proposed, is currently used to park end-of-life buses. A portion is also rented to store containers and to park trucks. There are no landscaping and no trees.

#### 4.4.2 TREE SURVEY

The trees currently on the project site include a species of pine, along the driveways on Seminary Avenue and around the employee parking structure. From a Google Earth survey conducted on July 16, 2019, there are approximately 19 large pines currently on the site. The project site is not reported as a site within the City of Oakland's Big Tree Registry<sup>26</sup> and are unlikely to be a native plant species common to Oakland's creeks<sup>27</sup>.

#### 4.4.3 THREATENED, ENDANGERED, AND SENSITIVE SPECIES

Based on a California Natural Diversity Database (CNDDB) search for threatened, endangered, and sensitive species within a 1-mile radius of the project site, the following species were identified that might occur at the project site:

**Table 6: List of Sensitive Species in a 1-mile Radius of the Project Site**

<i>Common Name</i>	<i>Scientific Name</i>	<i>Federal List</i>	<i>State List</i>	<i>Sensitive Species Type</i>
<i>Alameda song sparrow</i>	<i>Melospiza melodia pusillula</i>	None	None	No
<i>American peregrine falcon</i>	<i>Falco peregrinus anatum</i>	Delisted	Delisted	Yes
<i>California Ridgway's rail</i>	<i>Rallus obsoletus obsoletus</i>	Endangered	Endangered	No
<i>Dark-eyed gilia</i>	<i>Gilia millefoliata</i>	None	None	No
<i>Fragrant fritillary</i>	<i>Fritillaria liliacea</i>	None	None	No
<i>Loma Prieta hoita</i>	<i>Hoita strobilina</i>	None	None	No
<i>longfin smelt</i>	<i>Spirinchus thaleichthys</i>	Candidate	Threatened	No
<i>Marin knotweed</i>	<i>Polygonum marinense</i>	None	None	No
<i>Point Reyes salty bird's-beak</i>	<i>Chloropyron maritimum ssp. Palustre</i>	None	None	No

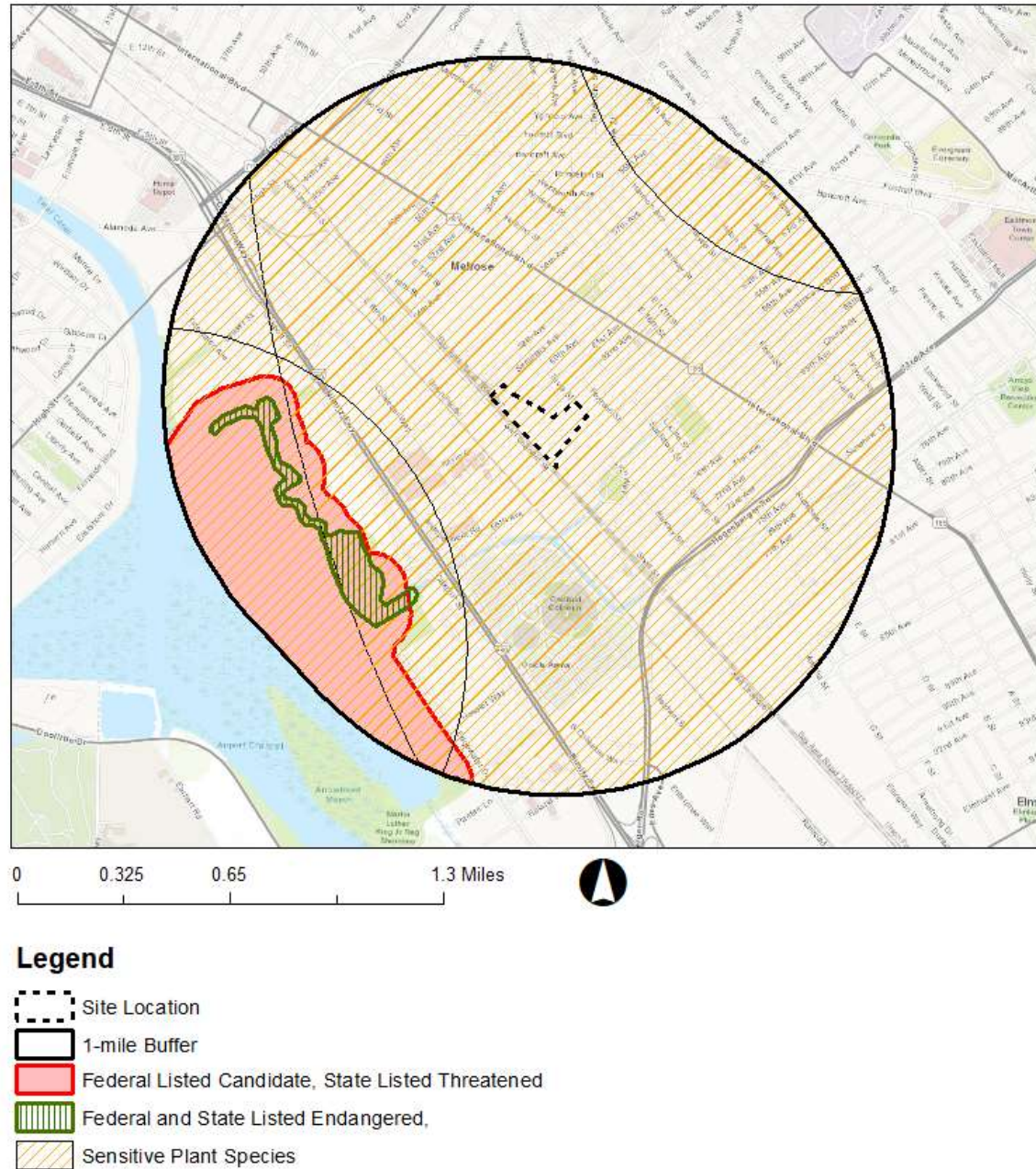
<sup>26</sup> City of Oakland. Big Tree Registry. February 2008.  
<http://www2.oaklandnet.com/oakca1/groups/pwa/documents/webcontent/oak025516.pdf>

<sup>27</sup> City of Oakland. Native Plant Species Common to Oakland's Creeks.  
<http://www2.oaklandnet.com/oakca1/groups/pwa/documents/marketingmaterial/oak026437.pdf> Accessed on July 16, 2019.

Common Name	Scientific Name	Federal List	State List	Sensitive Species Type
Woodland woollythreads	Monolopia gracilens	None	None	No

Source: CDFW. California Natural Diversity Database (CNDDDB), July 2019.

Figure 13: Federal and State Listed Threatened, Endangered, and Sensitive Species



Source: CDFW. California Natural Diversity Database (CNDDDB), July 2019. Map created by WSP USA, September 2019.

#### 4.4.4 IMPACTS ANALYSIS

- a) **The proposed project would not 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.**

The proposed project improvement would occur on a developed site mainly covered with concrete in an urbanized setting. The project site is located in an area where sensitive plant species are identified in the CNDDDB. Shrubs and trees at the edges of the property are the only plant species found on the project site. Around 1947, the site was developed from agricultural land into a transportation facility that is composed mainly of pavement and buildings. No existing trees would be modified or impacted by the proposed project, and all proposed major infrastructure improvements would be limited to the project site. A transformer would be installed in the landscaping, but is not anticipated to necessitate the removal of any trees that may provide habitat to urban species. Due to the urbanized setting, it is not expected that any sensitive plant species would be present or supported on the site. No federal or state listed threatened or endangered species occur on the site and therefore would not be impacted by the proposed project. Therefore, the proposed project would not impact any potential sensitive plant species in the area.

According to the California Department of Fish and Wildlife (CDFW), the proposed project is not located in a state refuge<sup>28</sup>. Furthermore, it is not located in a Critical Habitat for Threatened & Endangered Species per the U.S. Fish & Wildlife Service (USFWS) map tool<sup>29</sup>.

Based on the above, the proposed project would not impact any federal or state listed threatened or endangered species nor is situated in a refuge or a critical habitat for endangered species. Proposed construction would not include other site than the proposed project. Therefore, the proposed project would not directly or indirectly modify the habitat of an endangered species. Impacts would be less than significant and no mitigation is required.

- b) **The proposed project would not 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.**

The CDFW's CNDDDB mapped a total of ten species within a 1-mile radius of the proposed project site that were listed as threatened, endangered, candidate, or sensitive species (See Figure 13, p.44). None of the plants found to be within 1-mile of the project site were identified as a native plant found along the riparian corridors of Oakland's creeks<sup>30</sup>. No sensitive habitats were identified from the CNDDDB to be within the 1-mile buffer of the project site. The project site is currently disturbed and would not provide support for any riparian habitat or other sensitive natural community that has been identified federally by the USFWS, by the state through CDFW or by the City of Oakland. As detailed in 4.10 Hydrology and Water Quality, no discharge would leave the site that could potentially impact riparian habitats and species within the nearby creeks.

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<sup>28</sup> California Department of Fish and Wildlife <https://apps.wildlife.ca.gov/bios/> (accessed on June 11, 2019).

<sup>29</sup> U.S. Fish & Wildlife Service <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77> (accessed on June 11, 2019)

<sup>30</sup> City of Oakland. Native Plant Species Common to Oakland's Creeks. <http://www2.oaklandnet.com/oakca1/groups/pwa/documents/marketingmaterial/oak026437.pdf> Accessed July 16, 2019.



There would be a no impact to riparian habitat or other sensitive natural communities identified by local agencies and by state and federal agencies, CDFW and USFWS. No mitigation is required.

- c) The proposed project would not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

The proposed project improvements would occur on a fully impervious site already developed. The project site is not identified as wetland in the National Wetlands Inventory (surface water and wetlands)<sup>31</sup>. No known federally protected wetlands as defined by the Section 404 of the Clean Water Act would be affected by the project implementation. No impact to wetland resources would occur as a result of the project implementation. No mitigation is required.

- d) The proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.**

The project is not located within a known regional wildlife movement corridor or any other sensitive biological area, as indicated by the USFWS Critical Habitat portal<sup>32</sup> or CNDDB. However, landscaped areas within urban environments provide habitat and refuge for resident birds and migratory birds passing through the area. Migratory birds, nesting birds, nests and eggs of any bird are protected by California Fish and Game Code (Sections 3503, 3503.5, and 3513) and the federal Migratory Bird Treaty Act (Section 703 et seq.). Wildlife anticipated to be present within the project area is wildlife associated with the built urban environment such as rodents, other small animals, and native and migratory birds. Trees in the project area may provide nesting habitats for native and migratory birds. The proposed project would not impact or disturb the on-site trees or a substantive amount of landscaping, and would therefore have no impact on migratory birds and wildlife corridors.

- e) The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

The proposed project improvements would occur on a fully impervious site already developed and located in an urbanized area. It is not part of the Oakland Estuary Policy Plan<sup>33</sup>, is not identified in the Oakland General Plan Open Space, Conservation and Recreation Element as a plant and animal community, or as an area for plant of special concern, or potential wildlife corridors<sup>34</sup>. The project site is not an area of interest for the San Francisco Bay Plan

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<sup>31</sup> U.S. Fish & Wildlife Service, National Wetlands Inventory (surface water and wetlands), <https://www.fws.gov/wetlands/data/mapper.html> (accessed on June 11, 2019)

<sup>32</sup> U.S. Fish & Wildlife Service, Critical Habitat Portal, <https://ecos.fws.gov/ecp/report/table/critical-habitat.html> (accessed on June 11, 2019)

<sup>33</sup> Oakland Estuary Policy Plan, <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/webcontent/oak035256.pdf> (accessed on June 11, 2019)

<sup>34</sup> Oakland General Plan Open Space, Conservation and Recreation Element <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/webcontent/oak035250.pdf> (accessed on June 11, 2019)



prepared by the San Francisco Bay Conservation and Development Commission<sup>35</sup>. The site is also not included in Alameda County's East Contra Costa and Alameda Counties Habitat Conservation Plan/Natural Community Conservation Plan<sup>36</sup>. As detailed above in Section 4.1 Aesthetics, the proposed project would not conflict with tree preservation policies and ordinances meant to protect Oakland's trees. Furthermore, the proposed project would not involve the removal of any trees (native or non-native) on the project site, which would not conflict with Oakland's tree ordinance<sup>37</sup>. Therefore, the proposed project would not conflict with any local ordinance or local policy. There would be no impact and no mitigation is required.

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<sup>35</sup> San Francisco Bay Conservation & Development Commission, *San Francisco Bay Plan - Plan Map 5, Central Bay*, [http://www.bcdc.ca.gov/pdf/bayplan/Plan\\_Map\\_5.pdf](http://www.bcdc.ca.gov/pdf/bayplan/Plan_Map_5.pdf) (accessed on June 11, 2019)

<sup>36</sup> Alameda County. Habitat Conservation Plan and Natural Community Conservation Plan.

<sup>37</sup> City of Oakland. Municipal Code, Ordinance No. 11556 C.M.S. <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/policy/oak023189.pdf> Accessed July 17, 2019.

## 4.5 CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.5.1 EXISTING CONDITIONS

The existing conditions for cultural resources were based on a review of primary and secondary literature, historic maps, and material on file at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) located at California State University Sonoma, California.

Based on information obtained from the NWIC in July 2019, there are no previously identified archaeological sites within the project boundaries or within the records search study area, which encompasses a 0.25-mile radius around the project site (APN 4140581, 4140565, and 4140563). Figure 14 shows the study area for cultural resources.

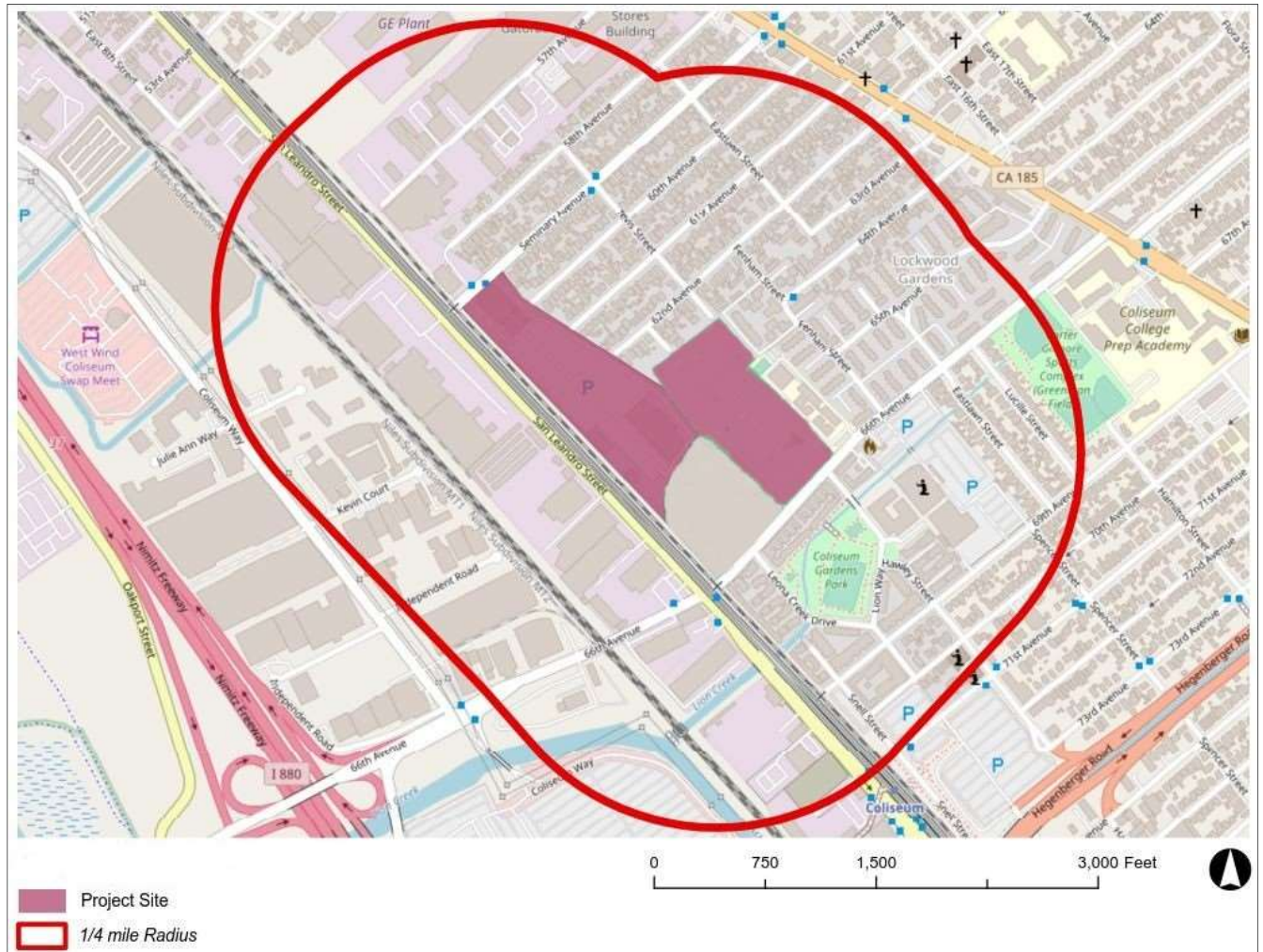
The NWIC records search did, however, reveal a number of previously identified historic built resources within the study area, including a National Register of Historic Place (NRHP) eligible historic district, the 57<sup>th</sup> Avenue Industrial District, which is a historical resource for the purposes of CEQA. This historic district is located approximately two blocks north of the project site. Its contributing resources along 57<sup>th</sup> Street include brick warehouses west of International Boulevard, as well as two industrial buildings on the west side of San Leandro Street. The NWIC records search identified 14 buildings within the district that the Oakland Cultural Heritage Survey evaluated during the 1990s and found to be eligible as contributing resources to the 57<sup>th</sup> Avenue Industrial District. However, since those surveys were conducted, three of the buildings—P-01-001304, P-01-001306, and P-01-001310—have been demolished and the lots used for parking. The remaining 11 resources—P-01-000895, P-01-000896, P-01-001299, P-01-001300, P-01-001301, P-01-001303, P-01-001305, P-01-001307, P-01-001308, P-01-001309, and P-01-001311—are considered contributors to the 57<sup>th</sup> Avenue Industrial District for the purposes of this study. A summary of the resources identified in the NWIC records search for the 57<sup>th</sup> Avenue Industrial District are listed in Table 7 and mapped in Figure 15 and Figure 16. The buildings that are no longer extant are noted in Table 7.

None of the remaining eight resources identified in the NWIC records search are listed, or eligible for listing, in the NRHP or California Register of Historical Resources (CRHR), nor are they considered historical resources for the purposes of CEQA pursuant to 14 CCR § 15064.5(a)(2). These resources are all buildings that were identified through surveys or city historic preservation reviews of rehabilitation permits and include the following:

- Three of the resources are single-family residences (P-01-00971, P-01-0269, P-01-0288)
- Three of the resources are industrial buildings (P-01-000897, P-01-010855, P-01-010856)
- Two of the resources are industrial buildings that are no longer extant (P-01-001325, P-01001326)

These ineligible resources are mapped in Figure 15 and Figure 16.

Figure 14: Study Area for Cultural Resources



Source: WSP USA, July 2019



Figure 15: Aerial View of the Study Area identifying Eligible NRHP Properties

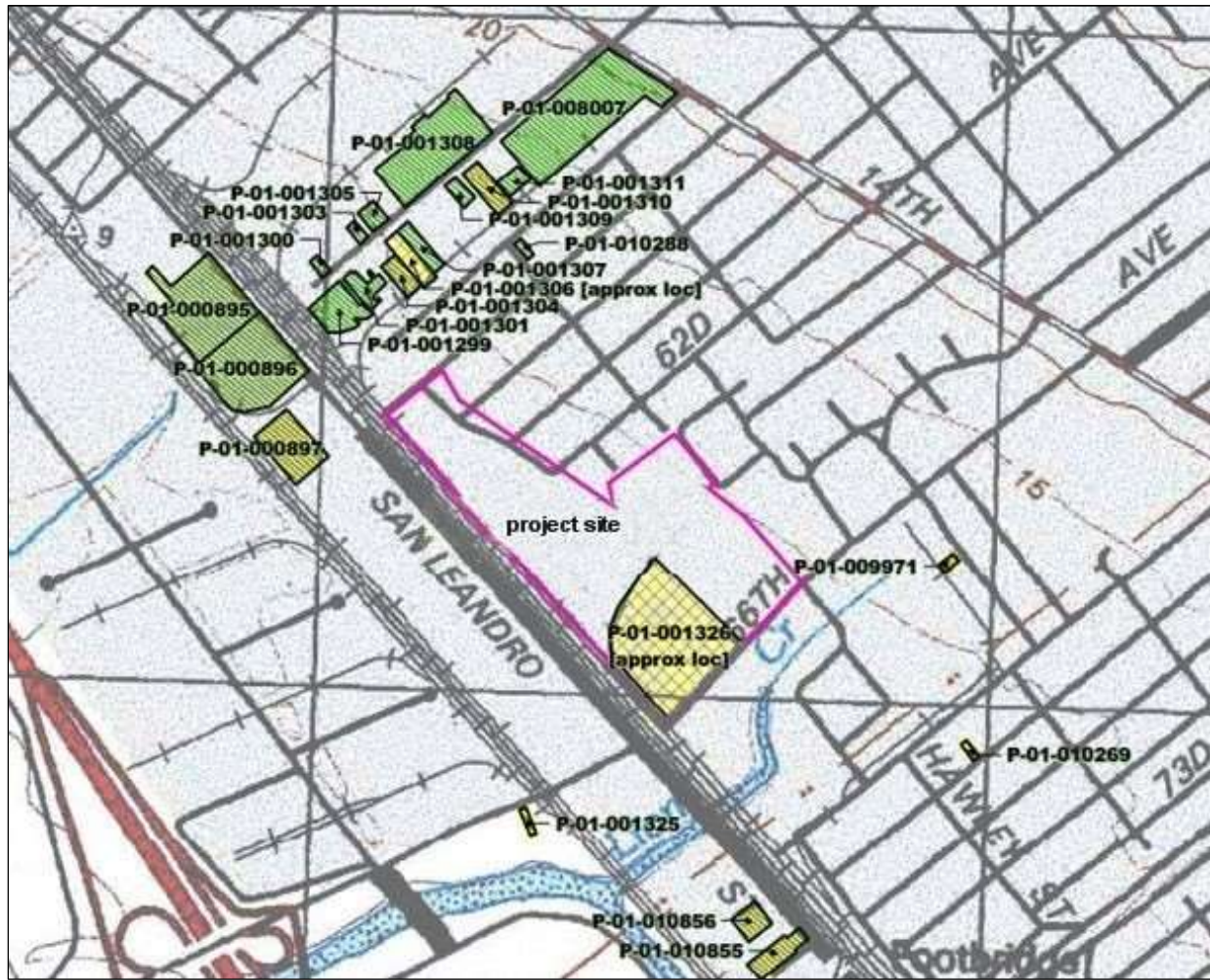


Note: Green shaded parcels (APN 4140581, 4140565, and 4140563) are owned by the Alameda Contra Costa Transit District and represent the project site; the purple shaded parcels contain NRHP-eligible properties; and the orange shaded parcels are ineligible for the NRHP and CRHR, and are not historical resources for the purposes of CEQA.

Source: WSP USA, August 2019, Northwest Information Center of the California Historical Resources Information System



Figure 16: Location of resources and sites identified in the NWIC records search.



Source: Northwest Information Center of the California Historical Resources Information System, August 2019.

Table 7: Resources within the NRHP-eligible 57th Avenue Industrial District identified in the NWIC records search.

Identifier	Resource Name	Address	APN	Resource type	Approximate distance from project site (feet)
P-01-000895	Continental Can Company Factory	5601 San Leandro St.	413848144	Building	1,216
P-01-000896	Kings County Packing - F.M. Ball Company Cannery	5733 San Leandro St.	413848133	Building	833
P-01-001299	Austin-Columbia Phono. -Ferro Enamel Factory	1100 57th Ave	413848111	Building	735
P-01-001300	Ferro Enameling Co. Factory	1101 57th Ave	413848016	Building	1,084
P-01-001301	Austin Securities Co. Factory Building	1104-22 57th Ave	413848010	Building	760
P-01-001303	Contractors Machinery Exchange Warehouse	1135 57th Ave	413848038	Building	1,103
P-01-001304	Austin Company Office & Warehouse (demolished)	1136 57th Ave	413848091	Building	812

Identifier	Resource Name	Address	APN	Resource type	Approximate distance from project site (feet)
P-01-001305	Contractors Machinery Exchange Warehouse	1137 57th Ave	413848037	Building	1,089
P-01-001306	Steffens (G.H.) Warehouse (demolished)	1142-46 57th Ave	413848081	Building	819
P-01-001307	Taylor Trucking Co. Shop Building	1154 57th Ave	413848007	Building	850
P-01-001308	Cutler Lobinger Packing Co. Cannery	11175-51 57th Ave	413848021	Building	1,161
P-01-001309	Pacific Telephone and Telegraph Melrose Garage	1180 57th Ave	413848028	Building	976
P-01-001310	Stokely Bros. Warehouse (demolished)	1200-14 57th Ave	413848006	Building	1,088
P-01-001311	West Coast Macaroni Mfg. Co. Factory	1250 57th Ave	413848005	Building	1,177

Source: Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), August 2019.

#### 4.5.1.1 PRE-HISTORIC AND HISTORIC CONTEXT

At the time of European contact, the east shore of the San Francisco Bay was occupied by a group of Native Americans known as the Ohlone or Costanoans. The Ohlones had inhabited the land around Oakland for at least 3,500 years, establishing as many as five villages in the area.

The earliest Europeans to explore the area around Oakland were Pedro Fages in 1770, Pedro Fages and Juan Crespi in 1772, and Juan Bautista de Anza in 1776. In 1820, the study area became part of a large 44,800-acre Spanish land grant known as Rancho San Antonio. The tract was granted to Don Luis Maria Peralta by Governor Vicente de Sola. Upon Peralta's death in 1842, the land passed to his four sons. The portion of Peralta's land in the Oakland area was known as *Encinar* (the Spanish term for oak grove) because of the large oak forest that covered the area. In 1852, 480 acres of the *Encinar* area was incorporated as the City of Oakland.

With the incorporation of Alameda County the following year (1853), the area south of Oakland (including the current project site), became part of a large rural territory known as the Brooklyn Township. This land remained largely undeveloped during the late nineteenth century, despite the construction of the Central Pacific Railroad—which was later consolidated with the Southern Pacific Railroad (SPRR)—and the Oakland Fruit Vale & Mills Seminary Railroad (Western Pacific Railroad) through the area during the 1870s. While these railroads spurred some industrial activity and residential development along the rail corridor adjacent to the marshlands bordering San Leandro Bay, the project area remained largely undeveloped.<sup>38</sup> By the early 1890s, contemporary maps show that a small community named Melrose (after the nearby SPRR station) had been established approximately a mile northwest of the project site. Additionally, these maps show that by the mid-1890s, the project site had been subdivided into three, semi-rural tracts: one owned by M. Samuel, another by C. Well, and the third by Emily F. Pope.<sup>39</sup>

With the increase in Oakland's population after the 1906 earthquake and the 1909 annexation of land east of the San Leandro Bay by the City of Oakland, residential developments in the emerging Eastlawn Subdivision around the project site had increased substantially. Cartographic research indicates that by 1911, the project site had been

<sup>38</sup> Woodward & Taggart, "Map of Oakland and Alameda, 1877." On file at the Oakland History Room, Oakland Public Library, Oakland, CA.

<sup>39</sup> Britton & Rey, "Map Showing Portions of Alameda and Contra Costa Counties, 1894." On file at the Library of Congress, Washington, D.C.



further divided into numerous, narrow residential lots, with 20 of these lots developed with small, single-family homes. Additionally, Sanborn Fire Insurance Maps reveal that by 1911, a substantial amount of underground utility lines (water pipes) had been installed beneath the subdivision's street grid. Underground water lines also directly cut through the current project site (APN 4140581, 4140565, and 4140563). Trenches for these lines were dug beneath 61<sup>st</sup>, 62<sup>nd</sup>, 64<sup>th</sup>, and 65<sup>th</sup> avenues, which originally extended from Tevis Street at the northeastern edge of the project site to San Leandro Street along the project site's southwestern border, creating four separate blocks within the current project property.<sup>40</sup>

During the early decades of the twentieth century, Oakland emerged as a major industrial and manufacturing center. The 1920s, in particular, were years of rapid growth in Oakland, as the population of factory workers expanded and builders tried to keep pace with the increasing demand for housing throughout the city. During the three years between 1921 and 1924, approximately 13,000 new homes were built in Oakland, which was more than the 13 years between 1907 and 1920.<sup>41</sup> Many of these homes were built in the Eastlawn Subdivision adjacent to the project site. Based on a sampling of property data from the Alameda County Assessor's Office, 60 percent of the homes in the Eastlake Subdivision were built in the 1920s. Current street view imagery of the neighborhood shows that these modest residences were built in the Craftsman architectural style. Of the remaining residences in the subdivision sampling, 9 percent were built in the 1910s, 6 percent were built in the 1930s, 11 percent were built in the 1940s, 7 percent were built in the 1950s-1960s, and the remaining 7 percent were built in the 1980s.

By 1946, aerial photographs reveal that the residential lots comprising the project site had been cleared of all above-ground improvements. Noticeable, too, is the absence of the four roadway segments of 61<sup>st</sup>, 62<sup>nd</sup>, 64<sup>th</sup>, and 65<sup>th</sup> avenues that had previously divided the project site. The aerial photographs clearly show that all the original subdivision parcels had been consolidated into one, large open space resembling the current configuration of the property (APN 4140581, 4140565, and 41405643) presently owned by the Alameda-Contra Costa Transit District.<sup>42</sup> By 1958, aerial photographs indicate that a large parking area had been constructed on the project site. Also visible is a large building with a rectangular footprint, which currently sits at the southeast end of APN 4140581. The three-story parking structure located at the northwest end of APN 4140581 was constructed more recently, sometime between 1981 and 1987, based on aerial photographs of the property.

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#### 4.5.2 IMPACTS ANALYSIS

##### a) **The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5**

There are no historic built resources on the project site that are listed, or eligible for listing, in the NRHP or CRHR, nor any resources that would otherwise meet the definition of a historical resource as set forth in § 15064.5(a) of the CEQA Guidelines.

The only historical resource within the study area is a NRHP-eligible historic district, the 57<sup>th</sup> Avenue Industrial District. The nearest contributing buildings to this district are located approximately two blocks (735 feet to 760 feet) northwest of the proposed project. At this distance, the proposed project would not be visible from any of the district contributors because the existing three-story employee parking structure at the northwest end of the

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<sup>40</sup> Sanborn Map Company, Insurance Maps of Oakland, California, 1912, Volume 5, Sheet 561.

<sup>41</sup> Alameda County Health Services Agency. "East Oakland Community Information Book" 2001. On file at [https://web.archive.org/web/20080910075351/http://www.acphd.org/AXBYCZ/Admin/DataReports/east\\_oakland.pdf](https://web.archive.org/web/20080910075351/http://www.acphd.org/AXBYCZ/Admin/DataReports/east_oakland.pdf)

<sup>42</sup> Aerial photograph of Oakland, 1946. On file at [www.historicaerials.com](http://www.historicaerials.com)

project site on APN 4140581, combined with the intervening blocks of single-family residences along 60<sup>th</sup> Avenue, Seminary Avenue, and 58<sup>th</sup> Avenue, would serve as an effective visual barrier. Given these considerations, implementation of the project would not materially impair the district's setting or any of the other characteristics that qualify it for listing in the NRHP or CRHR. The proposed project would not result in any indirect or direct effects to this district. Therefore, there would be no impact under CEQA. No mitigation is required.

**b) The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.**

Based on information obtained from the NWIC, there are no previously identified prehistoric or historic archaeological sites within the boundaries of the project site or within the surrounding one-quarter mile study area. It is, however, possible that significant buried archaeological materials may still be present within the project area based on generalized predictive factors, such as the site's proximity to a permanent freshwater source. Given its once close distance to the Seminary Creek to the north and Lion Creek to the south, the project area could reasonably be considered to have a moderate potential for buried, prehistoric archaeological resources.

However, given the land use history of the project site, the potential for discovering prehistoric archaeological resources would be considered relatively low. Ground disturbance associated with the engineered channeling of these creeks, the trenching of nearby public streets and within the project site to install underground utilities, the paving of streets in the project area with asphalt, the paving of the project site's parking lots with concrete, and the construction and demolition of buildings on the project site would have all contributed to the disturbance of prehistoric archaeological resources and a loss of their integrity, while decreasing the potential for preserving them.

The potential for discovering a historic-period archaeological resource would also be considered relatively low. Given the relatively late development of the project site and the surrounding area, any subsurface remnants of built environment features from the late-nineteenth or early twentieth centuries would not likely serve as a source of important historical information. Historic construction methods, materials, and technologies from this period are well understood through contemporary trade journals and scientific monographs. Additionally, the NWIC records search indicate that the buildings and structures in the project area were constructed with methods, materials, designs, and technologies that were common in the late 1800s and early 1900s, as displayed through extant examples in the project area. Consequently, historic-period archaeological remains in the project area are likely to be of limited research value.

Although the potential for discovering a prehistoric or historic archaeological resources would be considered relatively low, new ground disturbance to install underground utility lines outside the areas of past disturbances could still result in an unanticipated discovery of an archaeological resource. Disturbance or destruction of an archaeological resource would be a significant impact. To avoid a significant impact on an archaeological resource, Mitigation Measure *MM-CULT-1: Accidental Discovery of Historical, Paleontological or Archeological Resources* would be implemented to reduce this impact to a less-than-significant level.

**c) The proposed project would not disturb any human remains, including those interred outside of dedicated cemeteries.**

No known human remains are present in the project area. However, it is possible that unmarked burials may be unearthed during ground disturbing activities. Although this impact would be significant, implementation of Mitigation Measure *MM-CULT-2: Accidental Discovery of Human Remains* would reduce this impact to a less-than-significant level. No further mitigation would be required.

### **4.5.3 MITIGATION MEASURES**

#### **MM-CULT-1: Accidental Discovery of Historical, Paleontological or Archeological Resources**

Pursuant to CEQA Guidelines section 15064.5(f), provisions for historical or unique archaeological resources accidentally discovered during construction should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measures for historical resources or unique archaeological resources is carried out.

Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully investigated by a qualified archaeologist to evaluate the find and assess the significance of the find according to the CEQA definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measure(s) recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.

#### **MM-CULT-2: Accidental Discovery of Human Remains**

In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to § 15064.5(e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC) pursuant to the Health and Safety Code § 7050.5(c), and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

## 4.6 ENERGY

This section assesses the significance of the use of energy, including electricity, natural gas and gasoline and diesel fuels, by the proposed project activities. It discusses existing energy use patterns at the project site and examines whether proposed project activities would result in the consumption of large amounts of fuel or energy, or use of such resources in a wasteful manner.

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.6.1 EXISTING CONDITIONS

#### 4.6.1.1 AC TRANSIT PETROLEUM PRODUCT'S CONSUMPTION

Gasoline and diesel, both derived from petroleum (also known as crude oil), are the two most common fuels used for vehicular travel. There are currently nine 40-foot FCEBs and five 40-foot BEBs at D4. Most of the current fleet at D4, 188 buses out of 203 buses, are diesel fueled buses. The table below shows the consumption of diesel for the fleet.

**Table 8: AC Transit Fleet's Petroleum Consumption**

	<i>Diesel Vehicle Count</i>	<i>Total Annual Miles</i>	<i>Total Diesel (gallons)</i>
<i>All Divisions</i>	616	22,038,690.20	5,109,737.20
<i>Division 4*</i>	188	6,726,093.76	1,559,465.25
<i>Approximate Consumption per Bus</i>	1	35,777.09	8,295.03

\*Ratio using the number of diesel buses at D4 and the total of annual miles and diesel used for all divisions

Source: AC Transit, Total Miles Run Report, 12-01-2017 to 12-01-2018.

#### 4.6.1.2 AC TRANSIT ELECTRICITY

Currently, the project site uses electrical energy to operate the maintenance facility, the employee parking structure, the transportation building, the bus wash station, and the fueling station as well as the lighting of the surface bus parking area.

AC Transit has installed 7,032 solar panels that generated 1,427 kW direct current (DC) located the roof of the CMF and divisions in Hayward and Oakland. These solar systems deliver approximately 2,226 MWh of power per year—a significant portion of what is required to operate each facility<sup>43</sup>.

A 420 kW Bloom Energy stationary fuel cell system was installed at the Oakland Facility. Biogas – collected from landfills – feeds the fuel cell, which in turn supplies clean electricity to the entire facility.

AC Transit facilities are also powered by electricity supplied from Pacific Gas and Electric (PG&E). PG&E power mix is defined in the table below:

**Table 9: PG&E 2017 Power Mix**

<i>PG&amp;E Power Mix</i>	<i>Percentages</i>
<i>Renewable*</i>	33%
<i>Nuclear*</i>	27%
<i>Large Hydro*</i>	18%
<i>Natural Gas and Other Fuels</i>	20%
<i>Market Purchases</i>	2%

\*Greenhouse gas free and/or renewable resources

Source: PG&E, [https://www.pge.com/pge\\_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18\\_PowerContent.pdf](https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf) (accessed on August 1, 2019)

#### 4.6.2 BATTERY OPTIMIZATION LIFECYCLE TOOL ANALYSIS

To determine potential fueling assignments and ZEB use on current transit line in the Clean Corridor routes, and for a planned new line between Emeryville Amtrak station and San Francisco Salesforce Transit Center, WSP's proprietary Battery Optimization Lifecycle Tool (BOLT) model was used. The objective was to help determine weekday block assignment for garage-charged BEBs (with no on-route recharging) and FCEBs.

BOLT can model several electric bus models and battery pack sizes, simulating their operation on a selected route or network of routes. Ridership, parasitic load (e.g., headlights, ITS), route geometry (length and topography), weather conditions (Heating, Ventilation and Air-Conditioning operation) are simulated to determine the remaining state-of-charge (SOC) of the battery over time. The SOC is the proportion of the charge in the battery to the maximum charge it can hold at that time.

BOLT calculates the SOC losses and outputs the change in SOC as a bus completes a series of trips over the course of a day. Charging infrastructure can be added to simulate inductive, overhead, or plug-in charging at various power levels to assess how this increases the potential mileage range. Further, using bus dispatch data, BOLT can identify the time available to charge a BEB at the garage before next day.

In this analysis, the BEB manufacturer New Flyer model (40 feet, 466 kWh battery size, plug-in charging method, projected range 165.3 miles<sup>44</sup>) was modelled for the battery configuration. While this analysis used New Flyer

<sup>43</sup> AC Transit. Environment: Producing Green Energy Through Solar. <http://www.actransit.org/environment/> (accessed on July 24, 2019)

<sup>44</sup> Based on average energy efficiency 2.81 kWh/mile, calculated assuming conservative simulation conditions (WSP, *BOLT Analysis*. June 2019.)

models procured by AC Transit, other BEBs from other manufacturers, such as the Proterra Catalyst and BYD K9, also fall within this range of battery sizes. Buses were assumed to be at 100 SOC at the beginning of their scheduled use, and were simulated without on-route or midday depot charging since no readily available locations were conducive to the installation of on-route charging equipment.

Range for BEBs depends on route-specific factors including length, topography, number of starts and stops, layover/dwell times, and speeds. The BOLT model application yielded the following order-of-magnitude mileage range estimates:

**Table 10: Battery Consumption for BEBs**

<i>Mileage Range per Block</i>	<i>Battery Consumption (kWh/mile)</i>	<i>Total Battery Consumption per One-Way Trip (kWh)</i>
93-110	2.74-3.21	40.5-43.8

Note: the range indicate various route conditions (boulevard, highway), Ridership, parasitic load (e.g., headlights, ITS), route geometry (length and topography), weather conditions (Heating, Ventilation and Air-Conditioning operation)

Source: WSP USA, BOLT Modal Result Report, 2019.

#### 4.6.3 IMPACTS ANALYSIS

- a) **The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

Unavoidable adverse effects may include wasteful, inefficient and unnecessary consumption of energy during the project construction, operation, and maintenance that cannot be feasibly mitigated.

##### *Construction*

During construction, electricity would be required for operation of hand tools, mobile project offices, and lighting. Diesel and gasoline would be required for grading and construction equipment, delivery trucks, earth hauling trucks, and construction crew commute vehicles. The proposed project would increase trips to and from the project site for the construction phase, increasing the use of petroleum fuels for commuting and construction vehicle usage. The use of diesel and gasoline, a nonrenewable resource, would be consumed as a result of construction. The project would not increase the use of electricity or diesel during the construction phase to a level that is wasteful or inefficient with standard construction activities. Project-related trips and construction equipment usage would be managed by a construction plan to minimize inefficient usage. Additionally, this temporary expenditure of energy is meant to, in the long-term, allow for a transition to vehicles that use less energy. Given these considerations, the construction-related energy use associated with the proposed project would not be inefficient or wasteful and would be for a temporary period. Impact would be less than significant and no mitigation is required.

##### *Operation*

During operations, the use of electrical energy would increase due to the replacement of 20 to 40 diesel fuel buses with ZEB's that require charging for fuel. A new transformer would be installed on site to supply more electrical energy for the project's usage. This replacement would decrease the usage of diesel for fueling by approximately 165,900 to 331,800 gallons of diesel per year for the 20 to 40 buses which represent approximately between 3 and



6 percent of the annual consumption of AC Transit 's diesel<sup>45</sup>. Using a conservative approach, the demand for electricity would increase by approximately 2,300 and 4,600 mWh<sup>46</sup>. The electricity used to power the new ZEBs would represent approximately 0.11 and 0.21 percent of the City of Oakland's total electricity consumption of 2,175,000 mWh.<sup>47</sup>

According to Appendix F of the CEQA Guidelines, the wise and efficient use of energy includes:

1. Decreasing overall per capita energy consumption;
2. Decreasing reliance on fossil fuel such as coal, natural gas, and oil; and
3. Increasing reliance on renewable energy sources.

Increased deployment of ZEBs would place additional demand on the existing electricity grid; however; the proposed project would be implemented in conjunction with other statewide regulatory programs aimed at improving the State's per capita energy consumption, decrease reliance on fossil fuels, and increase reliance of renewable energy sources. The State's energy portfolio would concurrently become more renewable as regulations such as the Renewable Portfolio Standard and the Clean Energy and Pollution Reduction Act (SB 350) (Chapter 547, Stats. of 2015) require more stringent mandates. It would be expected that the electricity required to power BEBs or to produce hydrogen could be supplied by renewable forms of electricity (e.g., solar, wind) as the State progresses towards its goal of 50 percent renewable energy targets mandated under SB 350<sup>48</sup>.

The BOLT analysis modeled how the 45 BEB's would service the corridor and the frequency of refueling that would be necessary to operate the BEBs on these lines. The electrical energy consumption for refueling these BEB's would not be wasteful because the proposed project would not substantially increase the amount of transit routes currently in operation and would continue to serve existing ridership demand. The proposed project would not increase refueling of BEBs or increase the use of BEB's in a way that would be inefficient to energy usage.

The proposed project would decrease AC Transit's reliance on fossil fuel. Therefore, the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. There would be less than significant. No mitigation is required.

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<sup>45</sup> Calculation based on AC Transit, Total Miles Run Report, 12-01-2017 to 12-01-2018 using calculation of Table 8.

<sup>46</sup> Calculation based on AC Transit, Total Miles Run Report, 12-01-2017 to 12-01-2018 using calculation of Table 8 and WSP BOLT model using the upper bound consumption of 3.21 kWh/mile x 20 buses x 35,777.09 miles/buses and 3.21 kWh/mile x 40 buses x 35,777.09 miles/buses.

<sup>47</sup> City of Oakland, Energy Efficiency and Renewable Energy, <http://www2.oaklandnet.com/government/o/PWA/o/FE/s/SO/OurFocusAreas/Legislation/index.htm> (accessed on August 11, 2019)

<sup>48</sup> Innovative Clean Transit A Replacement to the Fleet Rule for Transit Agencies Final Environmental Analysis, December 7, 2018 p.49.

**b) The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.**

The City of Oakland runs a City Facility Energy Improvement Program and Sustainable Oakland Program, which support Oakland in implementing priority actions identified in the Energy and Climate Action Plan (ECAP)<sup>49</sup>. Optimizing Oakland's use of energy and minimizing associated energy costs and greenhouse gas (GHG) emissions are important components of Oakland's sustainable city vision. The purpose of the ECAP is to identify and prioritize actions the City can take to reduce energy consumption and GHG emissions associated with the city's activities. The most current ECAP includes recommendations to achieve goals by 2020; which includes improving citywide fuel efficiency through fostering the use of low-carbon vehicles and fuels. The proposed project would aid the City of Oakland in achieving its ECAP transportation goals of reducing greenhouse gas emissions by improving fuel efficiency through the use of low-carbon vehicles and decreasing diesel consumption.

The proposed project also supports the 2017 Clean Air Plan: Spare the Air, Cool the Climate that includes measure to move transportation mode (including private vehicle and buses) towards electric vehicles to reduce GHG emissions and fuel consumption<sup>50</sup>.

Furthermore, the proposed project complies with the Innovative Clean Transit regulation adopted in December 2018 and requires all public transit agencies to gradually transition to a 100 percent ZEB fleet. Beginning in 2029, 100 percent of new purchases by transit agencies must be ZEBs, with a goal for full transition by 2040<sup>51</sup>.

Therefore, the proposed would not conflict with a state or local plan for renewable energy or energy efficiency. There would be no impact. No mitigation is required.

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<sup>49</sup> City of Oakland. Energy and Climate Action Plan. Updated March 2018.

<http://www2.oaklandnet.com/oakca1/groups/pwa/documents/policy/oak069942.pdf> Accessed on August 11, 2019.

<sup>50</sup> BAAQMD, 2017 Clean Air Plan: Spare the Air, Cool the Climate <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans> (accessed on August 11, 2019)

<sup>51</sup> California Air Resource Board, Innovative Clean Transit (ICT) Regulation Fact Sheet, <https://ww2.arb.ca.gov/resources/fact-sheets/innovative-clean-transit-ict-regulation-fact-sheet> (accessed on August 11, 2019)

## 4.7 GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the California Building Industry Association v. Bay Area Air Quality Management District case decided in 2015<sup>52</sup>, the California Supreme Court held that CEQA does not generally require lead agencies to consider how existing hazards or conditions might impact a project's users or residents, except where the project would significantly exacerbate an existing environmental hazard. Accordingly, hazards resulting from a project that places development in an existing or future seismic hazard area or an area with unstable soils are not considered impacts under CEQA unless the project would significantly exacerbate the seismic hazard or unstable soil conditions. Thus, the analysis below evaluates whether the proposed project would exacerbate future seismic hazards or unstable soils at the project site and result in a substantial risk of loss, injury, or death. The impact is considered significant if the proposed project would exacerbate existing or future seismic hazards or unstable soils by increasing the severity of these hazards that would occur or be present without the project.

This section describes the geology, soils, and seismicity characteristics of the project area as they relate to the proposed project. This section's analysis relies on the information and findings in the geotechnical investigations prepared for previous geotechnical studies at the project site.<sup>53</sup>

Potential geology and soil impacts related to the project include seismically induced ground shaking, as well as ground failures that could damage structures on the project sites. Construction-related impacts include potential erosion and instability due to excavation. The final features to be included in the project to avoid or withstand seismic and geologic effects would be determined based on a design-level geotechnical investigation required as part of the building permit review process administered by the building department, as discussed below.

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#### 4.7.1 EXISTING CONDITIONS

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##### 4.7.1.1 GEOLOGICAL SETTING

The AC Transit D4 Facility and the Tevis Street Site are located about 3,000 feet from the eastern margin of the San Francisco Bay. The Bay is a drowned river valley formed in a northwest-southeast trending trough within the Coast Range geologic province. The trough is bounded by the San Andreas and Hayward faults. The site is located on an alluvial plain adjacent to the San Francisco Bay margin. Based on available geologic maps, the site is underlain by 900 feet of young, unconsolidated alluvial sediments, possibly including Old Bay Clay. Bedrock is likely to be on the order of about 900 feet deep. Young Bay Mud appears to be absent in the vicinity of the site.

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##### 4.7.1.2 FIELD EXPLORATIONS

Field explorations were performed on September 3, 2004 by drilling 3 exploratory borings.

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##### 4.7.1.3 SUBSURFACE CONDITIONS

Available information indicates the following subsurface conditions for the proposed project. The elevation of the site is approximately 25 feet above mean sea level. The site is currently flat and site grading would be minimal. The borings encountered mainly alluvial soil deposits. The upper 5 to 7 feet of borings consist of clayey gravelly sand, followed by mainly brown gray silty and sandy clays. The upper sands and gravels appear to be fill and are quite dense. The lower clays are generally stiff to very stiff. Clays found on the project site are relatively compressible and

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<sup>52</sup> California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal.4th 369. Opinion filed December 17, 2015.

<sup>53</sup> Tryhorn, Alan, GEO/Resource Consultants, Inc, *Geotechnical Investigation Report Proposed Hydrogen Fuel Station AC Transit Seminary Avenue Facility, Oakland California*, October 13, 2004.

some are expansive in nature. In boring 3, the geotechnical investigation encountered a layer of dense sand at about 10 feet in between the lower clays.

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#### 4.7.1.4 GROUNDWATER

Groundwater was encountered at a depth of 6 to 11 feet, measured one to three hours after drilling activities. Groundwater is assumed to be at a 7 feet depth. However, this depth may not represent the long-term stabilized condition, and level may be higher.

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#### 4.7.2 IMPACTS ANALYSIS

- a) The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction or landslides

##### *Rupture of a Known Earthquake Fault*

The project site is located in a seismically active area; however, it is not located within an Alquist-Priolo Earthquake Fault Zone, and no active or potentially active faults exist on or in the immediate vicinity of the site. The nearest active fault is the Hayward Fault which is located approximately 2.9 miles east of the project site<sup>54</sup>. Furthermore, the proposed project would not cause or worsen rupture of any known or unknown earthquake fault. Therefore, the potential for surface rupture is low for the project site. The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Impacts would be less than significant. No mitigation is required.

##### *Strong Seismic Ground Shaking*

Oakland is located within a seismically active region, which has experienced several strong earthquakes during the 200-year period for which historical records exist.

The intensity of seismic shaking, or strong ground motion, at the project sites during an earthquake is dependent on the distance between the site and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the sites.<sup>55</sup> Earthquakes occurring on faults closest to the sites would likely generate the largest ground motions.

The U.S. Geological Survey concluded that there is a 72 percent likelihood that a strong earthquake (Magnitude 6.7 or higher) will occur in the San Francisco Bay area in the next 30 years<sup>56</sup>. The faults that would be capable of causing strong ground shaking at the project sites are the Hayward Fault, located within 2.9 miles of the project site, the

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<sup>54</sup> Tryhorn, Alan, GEO/Resource Consultants, Inc, *Geotechnical Investigation Report Proposed Hydrogen Fuel Station AC Transit Seminary Avenue Facility, Oakland California*, October 13, 2004, p.4.

<sup>55</sup> Moment magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture.

<sup>56</sup> U.S. Geological Service Earthquake Hazards Program, 2014 Bay Area Earthquake Probabilities, <https://pubs.usgs.gov/fs/2016/3020/fs20163020.pdf> (accessed on July 5, 2019).

Calaveras Fault, located within 11 miles, the Concord-Green Valley, located within 15 miles, the San Andreas Fault, located within 17 miles, and the Greenville Fault, located within 20 miles. Based on shaking hazard mapping by the Association of Bay Area Governments, the project site would experience very strong ground shaking due to an earthquake along the North and South Hayward Fault<sup>57</sup>.

Although the project site would be subject to very strong ground shaking in the event of a major earthquake, the project would not expose people or structures to substantial adverse effects related to ground shaking because the project would be designed and constructed in accordance with the current state and local building code requirements. The building department's requirement for a geotechnical report and review of the building permit application pursuant to the City's implementation of the local and state building code, local implementing procedures, and state laws, regulations and guidelines would ensure that the proposed project would have no significant impacts related to soils, seismic or other geological hazards. Therefore, impacts related to ground shaking would be less than significant. No mitigation is required.

#### *Seismic-Related Ground Failure, Including Liquefaction*

Liquefaction is a phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced, strong ground shaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude of earthquakes likely to affect the site. Saturated, unconsolidated silts, sands, silty sands, and gravels within 50 feet of the ground surface are most susceptible to liquefaction. The primary liquefaction-related phenomena include lateral spreading<sup>58</sup> and vertical settlement.<sup>59</sup>

The project site lies within a mapped Seismic Hazard Zone, as delineated by the State of California on the Oakland East and Parts of the Las Trampas Ridge Quadrangle. Specifically, the site is within a liquefaction hazard zone and required investigation for liquefaction, as directed by Division 2, Chapter 7.8 of the California Public Resources Codes. Per the California Geologic Survey and published recommended procedures, sites within zones of required study may be suitably addressed if a screening investigation demonstrates little or no potential for liquefaction<sup>60</sup>. As part of the screening investigation, the geotechnical team reviewed the geotechnical data from previous study and current borings data. The borings show that the site is underlain by a thin layer (5-7 feet thick) of very dense gravelly sand fill over mostly stiff to hard clay. Other borings within the AC Transit D4 site indicate similar conditions to a depth of 50 feet. On that basis, the site may be considered primarily clayey soils, and are, considered non-liquefiable. Therefore, the proposed project would not directly or indirectly cause potential substantial adverse

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<sup>57</sup> Association of Bay Area Governments, Resilience Program, <http://gis.abag.ca.gov/website/Hazards/?hlyr=northSanAndreas>, accessed on July 5, 2019.

<sup>58</sup> Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

<sup>59</sup> During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments). Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or bay mud.

<sup>60</sup> Tryhorn, Alan, GEO/Resource Consultants, Inc, *Geotechnical Investigation Report Proposed Hydrogen Fuel Station AC Transit Seminary Avenue Facility, Oakland California*, October 13, 2004, p.7.



effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Impacts would be less than significant and no mitigation is required.

#### *Landslides*

The proposed project is not located in an area indicated as being susceptible to earthquake-induced landslides according to the State of California Seismic Hazard Zones Map for Oakland.<sup>61</sup> Furthermore, the site is flat and present no indication of instability or erosion. Therefore, the risk of earthquake-induced landslides is low. The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Impacts would be less than significant and no mitigation is required.

**b) The proposed project would not result in substantial soil erosion or the loss of topsoil.**

The proposed project would be located on a flat, fully developed industrial site and covered of impervious surfaces. Grading of the site is not likely to be needed to accommodate the new facility. Construction and excavation activities might increase the potential for exposed soils to be eroded by wind or stormwater runoff, resulting in loss of top soil. The project sponsor will comply with Best Management Practices (BMPs) to reduce the impact of runoff from the construction site as defined in the City of Oakland Standard Conditions of Approval.<sup>62</sup> Thus, the project would not result in the loss of topsoil, nor result in substantial soil erosion on the project site or surrounding properties. Therefore, impacts of the proposed project related to loss of topsoil would be less than significant. No mitigation is required.

**c) The proposed project would not 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.**

Compliance with state and local building code requirements would ensure that the project sponsor include analysis of the potential for unstable soils as part of the design-level geotechnical investigation prepared for the proposed project. With the review of the building permit application for compliance with state and local building codes, as well as conformance with the project-specific design-level geotechnical reports, impacts related to the potential for settlement and subsidence due to construction on soil that is unstable or could become unstable as a result of the project, would be less than significant. No further mitigation is required.

**d) The proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.**

Typically, soils that exhibit expansive characteristics are found within the upper 5 feet of ground surface. Over long-term exposure to wetting and drying cycles, expansive soils can experience volumetric changes. The effects of expansive soils could damage foundations of aboveground structures, paved roads and streets, and concrete slabs. Expansion and contraction of soils, depending on the seasons and the amount of surface water infiltration, could exert enough pressure on structures to result in cracking, settlement, and uplift. As defined in the geotechnical report, the project site is underlain by clays that are generally stiff to very stiff, that are relatively compressive, and some are expansive in nature. As required by the state and local building codes, the design-level geotechnical

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<sup>61</sup> California Department of Conservation, The California Earthquake Hazards Zone Application <https://maps.conservation.ca.gov/cgs/EQZApp/app/> (accessed on July 5, 2019)

<sup>62</sup> City of Oakland General Condition of Approval of all Project, <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/agenda/oak065148.pdf> (accessed on July 5, 2019)

investigation would analyze the potential for soil expansion impacts and minimize any adverse effects through the recommendation of site preparations such as placement of engineered fill in accordance with the state and local building codes. The building department would review the application and plans for concurrence with those recommendations and compliance with the codes, reducing potential impacts to less than significant. No mitigation is required.

- e) **The proposed project would not 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.**

The proposed project would not require any connection to the wastewater and sewer system systems due to the nature of the new installation. Therefore, topic e), pertaining to alternative wastewater disposal, is not applicable to the proposed project.

- f) **The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

Paleontological resources (i.e., fossils) are the buried remains and/or traces of prehistoric organisms (i.e., animals, plants, and microbes). Body fossils such as bones, teeth, shells, leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in the geologic deposits (formations) within which they were originally buried. The primary factor determining whether an object is a fossil or not is not how the organic remain or trace is preserved (e.g., “petrified”), but rather the age of the organic remain or trace. Although typically it is assumed that fossils must be older than approximately 10,000 years (i.e., the generally accepted end of the last glacial period of the Pleistocene Epoch), organic remains of early Holocene age can also be considered to represent fossils because they are part of the record of past life.

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of prehistoric life and are used to understand the history of life on Earth, the nature of past environments and climates, the membership and structure of ancient ecosystems, and the patterns and processes of organic evolution and extinction. In addition, fossils are considered to be non-renewable resources because typically the organisms they represent no longer exist. Thus, once destroyed, a particular fossil can never be replaced.

From an operational standpoint, it is important to recognize that paleontological resources can be thought of as including not only actual fossil remains and traces, but also the fossil collecting localities and the geologic formations known to contain those localities. This view underscores the fact that it is not possible to know for certain where fossils are located without disturbing a potentially fossil-bearing geologic deposit (formation).

The Society of Vertebrate Paleontology has established guidelines for identifying, assessing, and mitigating adverse impacts to non-renewable paleontological resources<sup>63</sup>. Most practicing paleontologists in the United States adhere closely to the society’s assessment, mitigation, and monitoring guidelines, which were approved through a consensus of professional vertebrate paleontologists. Many federal, state, county, and city agencies have either formally or informally adopted the society’s standard guidelines for mitigating adverse construction-related impacts on paleontological resources.

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<sup>63</sup> Society of Vertebrate Paleontology, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, [http://vertpaleo.org/Membership/Member-Ethics/SVP\\_Impact\\_Mitigation\\_Guidelines.aspx](http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx) (accessed on August 16, 2019).

The Society of Vertebrate Paleontology methodology ranks geologic deposits (formations) as having either (1) high, (2) undetermined, (3) low, or (4) no paleontological potential for containing significant paleontological resources. Geologic deposits of high paleontological potential are those from which vertebrate or significant invertebrate or significant suites of plant fossils have been recovered; that is, those that are represented in institutional collections. Sensitivity is determined based on two criteria: (1) the potential for yielding abundant or significant vertebrate fossils or a few significant fossils, large or small, that are vertebrate, invertebrate, plant, or trace fossils, and (2) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronological, or stratigraphic data.

Unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a unit or formation. In other words, once a unit is identified as containing vertebrate fossils, or other rare fossils, the entire unit is a paleontological site<sup>64</sup>. For this reason, the paleontological sensitivity of geologic units is described and analyzed broadly rather than within the context of a specific site.

For the proposed project, ground disturbing activities would occur only at a surface level for grading and paving of surface and will disturb the upper sands and gravels that appear to be fill which is low paleontological potential. Pile drilling would be required for the foundation of the proposed deck and would most likely extend through the Old Bay Clay formation. The Old Bay Clay was formed when the ancestral Pacific Ocean re-entered the San Francisco Bay approximately 115,000 years ago<sup>65</sup>. The Old Bay Clay has an undetermined paleontological potential.

Although the potential for discovering a paleontological resource would be considered relatively low, new ground disturbance to install underground utility lines outside the areas of past disturbances could still result in an unanticipated discovery of a paleontological resource. Disturbance or destruction of a paleontological resource would be a significant impact. To avoid a significant impact on a paleontological resource, Mitigation Measure *MM-CULT-1: Accidental Discovery of Historical, Paleontological or Archeological Resources* would be implemented to reduce this impact to a less-than-significant level.

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<sup>64</sup> Society of Vertebrate Paleontology, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, [http://vertpaleo.org/Membership/Member-Ethics/SVP\\_Impact\\_Mitigation\\_Guidelines.aspx](http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx) (accessed on August 16, 2019).

<sup>65</sup> Tryhorn, Alan, GEO/Resource Consultants, Inc, *Geotechnical Investigation Report Proposed Hydrogen Fuel Station AC Transit Seminary Avenue Facility, Oakland California*, October 13, 2004, p.3.

## 4.8 GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

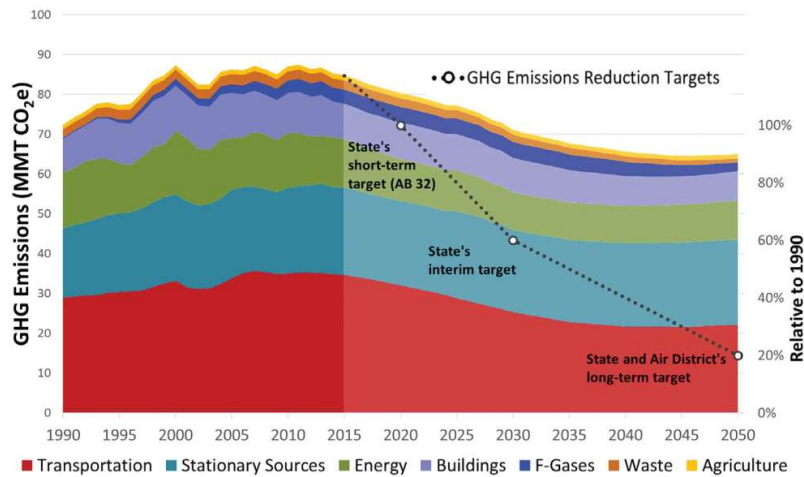
### 4.8.1 BACKGROUND INFORMATION

Greenhouse gas (GHG) emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed and will continue to contribute to global climate change and its associated environmental impacts.

Greenhouse gases absorb infrared radiation, thereby trapping heat and making the planet warmer. The most important greenhouse gases directly emitted by human activities include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), a variety of nitrogen oxides, and several other fluorine-containing halogenated substances. The dominant GHG emitted is CO<sub>2</sub>.

The California Air Resources Board (CARB) tracks and publishes an annual statewide GHG emission inventory as a tool for establishing historical emission trends and tracking California's progress in reducing GHGs. The Global Warming Solutions Act of 2006 (Assembly Bill 32) requires CARB to determine the statewide GHG emissions level in 1990. The act also requires CARB to meet 1990 GHG emissions levels by 2020. The BAAQMD Clean Air Plan 2017 lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, illustrated in Figure 17.

Figure 17 Projected Bay Area GHG Emissions by Sector Based on State Policies (100-year GWP)



Source: Bay Area Air Quality Management District, *Spare the Air Cool the Climate, Final 2017 Clean Air Plan*, Figure 3-9  
[http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_-proposed-final-cap-vol-1-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en)

#### 4.8.2 GREENHOUSE GAS CEQA THRESHOLDS

The air district has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines, sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA guidelines, section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs and describes the required contents of such a plan.

Land use projects may contribute to GHG emissions during the construction and operational phases of a project. Table 11 identifies air quality significance thresholds. If annual emissions of operations-related GHGs exceed these levels, the proposed project would result in cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

Table 11: Greenhouse Gas CEQA Thresholds of Significance (Project Level)

Pollutant	Construction Related	Operational Related
	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)
GHGs – project other than stationary sources	None	Compliance with qualified GHG reduction strategy <b>OR</b> 1,100 MT of CO <sub>2</sub> e/year <b>OR</b> 4.6 NT CO <sub>2</sub> e/SP/year (residents + employees)
GHGs –Stationary Sources	None	10,000 MT/year

**GHG:** greenhouse gas, **CO<sub>2</sub>e:** carbon dioxide equivalent, **lb/day:** pound per day, **MT/year:** Metric Tons per year, **SP:** Service Population, **tpy:** tons per year.

Source: Bay Area Air Quality Management District, *Air Quality CEQA Guideline*, Table 2-1, p. 2-3  
[http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en) (accessed on June 17, 2019)

### 4.8.3 IMPACTS ANALYSIS

- a) The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment and the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural-gas combustion). Indirect emissions include emissions from electricity providers; energy required to pump, treat, and convey water; and emissions associated with waste removal, disposal, and landfill operations.

#### *Construction Emissions*

Construction-related GHG emissions are primarily from the exhaust of construction equipment, heavy trucks, and worker vehicles. CO<sub>2</sub> emissions were estimated using a typical phasing schedule and defaults included in the California Emissions Estimator Model (CalEEMod), consistent with the air quality analysis. CalEEMod was run assuming two land use type options: “General Light Industry” with a size of 35,490 square feet to represent the new deck and “Parking Lot” with a size of 61,160 square feet to account for repaving under the deck and surrounding area, and all other recommended defaults. The estimated daily project emissions from construction are presented in Table 12<sup>66</sup>. There are no significance thresholds for construction-related GHG emissions to determine significance.

**Table 12: Construction Emissions of Greenhouse Gases**

Year	CO <sub>2</sub> Emissions (Mt/yr)
Maximum Daily Emissions	344.6
BAAQMD Thresholds	N/A
Threshold Exceeded?	No

N/A = not applicable; no BAAQMD threshold for CO<sub>2</sub>e

Source: WSP USA, July 2019

#### *Operational Emissions*

As discussed in the Project Description, the proposed project would not increase the number of buses but will replace existing diesel buses. The proposed modification would have a generally beneficial impact since it will remove diesel buses from priority corridors in areas designated as disadvantaged communities through Senate Bill 535. As discussed in the Innovative Clean Transit Final Environmental Analysis<sup>67</sup>, the Innovative Clean Transit replaces the existing Transit Fleet Rule and would reduce tail pipe emissions throughout the vehicle’s typical 14-year lifetime. The Innovative Clean Transit achieves GHG emission reductions from public transit through replacement of

<sup>66</sup> WSP USA, Table 2.0 “Overall Construction-unmitigated” emissions. CalEEMod worksheets.

<sup>67</sup> Innovative Clean Transit Final Environmental Analysis,  
<https://www.arb.ca.gov/regact/2018/ict2018/ictfinalea.pdf?ga=2.81225237.328671763.1560793152-1376242264.1553538379>  
(accessed on June 17, 2019)



buses with diesel internal combustion engines with ZEBs and forwards the Bay Area’s goals of reducing GHG emissions to 80 percent below 1990 levels by 2050.

As discussed in Section 4.3 Air Quality, for the proposed project, the reduction in CO<sub>2</sub> emissions was calculated using the California Air Resource Board (CARB) EMFAC2014 Web Database<sup>68</sup>. The oldest active 40-foot diesel buses in the existing AC Transit fleet were delivered from 2003 through 2005. Assuming the new BEBs or FCEBs would replace older model year buses, EMFAC was run for a model year 2005 urban transit bus. It was assumed each bus travels approximately 40,000 miles per year at an average speed of 15 miles per hour. Table 13 list a summary of the conditions with the existing buses compared with the four project options. All options lead to a reduction of CO<sub>2</sub> emissions from exhaust.

Upstream emissions from diesel buses represent emission associated with fuel production and distribution, or “well-to-pump” emissions. The emission factors are derived from Argonne National Lab’s GREET model<sup>69</sup>, based on the diesel required for a bus with a typical annual mileage of 40,000 miles per bus.

**Table 13: Comparison of CO<sub>2</sub> Emissions in Metric tons per year (MT/year)**

<i>Emission Source</i>	<i>Existing Condition (20 Diesel Buses)</i>	<i>Existing Condition (40 Diesel Buses)</i>	<i>Option 1 (20 BEBs)</i>	<i>Option 2 (40 BEB)</i>
<i>Bus Exhaust</i>	2,124	4,247	0	0
<i>Upstream</i>	272	544	384	768
<i>Total</i>	2,396	4,791	384	768

*Source: Calculation done by WSP USA, September 2019 with EMFAC2014 and GREET*

Upstream emissions from electric buses represent emissions associated with the production and transmission of electricity. These values vary by location and depend on the regional fuel mix used for energy production. Emission factors were derived from the GREET model, based on the electricity required for a bus that typically travels 40,000 miles per year. For all options, the total CO<sub>2</sub> emissions from operations would be less than the Existing Condition. BAAQMD guidance recommends that the existing emissions levels should be subtracted from the emissions levels estimated for the proposed project. In that case, the net emissions due to all options would be negative, and therefore less than the threshold listed in Table 11. Therefore, the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. There would be no impact and no mitigation is required.

<sup>68</sup> California Air Resource Board, EMFAC 2014 Web Database, <https://www.arb.ca.gov/emfac/2014/> (accessed on July 11, 2019)

<sup>69</sup> Argonne National Laboratory, GREET Model <https://greet.es.anl.gov/> (accessed on July 11, 2019)

#### 4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section was developed using the Environmental Summary Memorandum for AC Transit Zero Emission Buses Project at D4 site prepared by WSP USA in July 2019.

#### **4.9.1 BACKGROUND INFORMATION**

The project site was developed as agricultural land until a bus depot and maintenance building facility was constructed in 1947. In 1986, a new maintenance building and parking structure were constructed in the eastern portion of the parent parcel, and historical underground storage tanks (USTs) were removed as part of the property redevelopment activities.

In September 1986, soil sampling was conducted near the five fuel underground storage tanks (USTs). The tanks were historically located in the northeastern portion of the property near the current maintenance building but were excavated in January 1987, along with contaminated soils. Contamination consisted of oil and grease from asphalt degradation and from mechanical service pits in the raised portion of the former maintenance building and total fuel hydrocarbons, specifically diesel, emanating from the former UST area. Three groundwater monitoring wells were subsequently installed in January and May 1987 to determine the extent of groundwater contamination associated with the former USTs. On June 25, 1987, soils that apparently contained hydrocarbon products were encountered during the demolition of the former on-site maintenance building. A remediation plan requested by the San Francisco Bay Regional Water Quality Control Board (SFB-RWQCB) was submitted in October 1987, which consisted of extracting contamination from perched groundwater, excavating soils contaminated with diesel, and removal of leaking USTs. In 1996, thirteen existing USTs were moved on the site to the northwest and south of the current maintenance building.

A 1998 file search and field inspection concluded that only three monitoring wells remained at the site and that no further action was conducted following the 1987 remediation plan. Four of the wells appeared to have been destroyed during the construction of the new maintenance building in the eastern portion of the parent parcel. In March 2006, four dual-walled USTs were removed from the site.

Subsequent investigations of soil, groundwater, and soil gas were conducted at the property to further delineate the contamination plume. In September 2013, a Corrective Action Plan (CAP) was submitted for the facility. The CAP indicated that the contamination at the property was likely resultant of a secondary source associated with the tanks removed from the property in 1986. The CAP recommended implementation of an in-situ bioreactor (ISBR) system to facilitate contaminant degradation. The ISBR system was installed in 2014 and was scheduled to run for two years, until a ISBR Pilot Study Effectiveness Evaluation was submitted by the SFB-RWQCB to extend the ISBR system operation for another two years to remediate soils impacted by a secondary source that had not been removed to the extent practicable.

On April 26, 2019, AC Transit submitted the “2019 Q1 Semi-Annual Groundwater Monitoring Report.” Based on the historical groundwater flow direction and proximity of the documented groundwater plume, there is a potential that diesel-impacted groundwater and vadose-zone soil is located at shallow depths (1 to 4 feet below ground surface [bgs]) in the project area. In addition, other potential sources of contamination include up-gradient oil/water separators and surface drainage channels that have not been evaluated for historical impacts. Impacts associated with these features may include diesel, gasoline, motor oil, chlorinated solvents, and metals from long-term on-site maintenance activities.

#### 4.9.2 IMPACTS ANALYSIS

- a) **The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials**

##### *Construction*

Construction activities would require the use of limited quantities of hazardous materials such as fuels, oils, solvents, paints, and other common construction materials. There is a potential for spills and releases of fuels and other hazardous materials during refueling and maintenance activities. There is also a potential that hazardous materials may be transported near sensitive receptors, such as schools. The project sponsor and its contractor would implement BMPs during the construction which would reduce the hazards associated with short-term construction-related transport, and use and disposal of hazardous materials to less-than-significant levels. In addition, the handling and use of hazardous materials is governed by federal, state, and local laws.

##### *Operations*

Transition to zero emission would reduce the quantity of diesel fuel, oil and other automotive chemicals used in the maintenance and operation of diesel buses but will increase the number of lithium batteries for the ZEBs. This could result in increased rates of disposal of lithium batteries and hydrogen fuel cells; however, disposal would need to comply with California law, including but not limited to California's Hazardous Waste Control Law and implementing regulations. For lithium-ion batteries, it is anticipated they still have a useful life at the end of bus life, and are likely to be repurposed for a second life. Therefore, hazardous materials used during project operation would not pose any substantial public health or safety hazards related to hazardous materials.

For these reasons, the proposed project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant. No mitigation is required.

- b) **The proposed project would not 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.**

Construction activities may expose soils and groundwater with hydrocarbon impacts deriving from an up-gradient diesel and gasoline release associated with historical maintenance operations. In addition, the historical use of the property for agricultural purposes may be associated with pesticide and herbicide concentrations in surface soil. The excavation of potentially contaminated soils and groundwater will require a worker Health and Safety Plan and Soils Management Plan that outlines potential risks, proper containment, laboratory analysis, transportation, and disposal of impacted soil and groundwater. In addition, the handling and use of hazardous materials is governed by federal, state, and local laws. The project sponsor and its contractor would also implement BMPs practices during construction activities which would reduce the hazards associated with use and disposal of hazardous materials to less-than-significant levels.

With the implementation of *MM-HAZ-1 Health and Safety Plan and Soils Management Plan* and BMPs during construction, the proposed project would reduce the impacts associated with the potential release of hazardous materials to less than significant. Therefore, impacts would be less than significant with mitigation incorporated.

- c) **The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

##### *Construction*

The project site is located at a one-quarter mile from Acts Christian Academy, with Greenleaf Elementary School, Lockwood Elementary School, Guice Christian Academy, Aspire Golden State College Preparatory Academy and Oakland Unified School District within half a mile from the project site. The project site is known to be contaminated with hazardous materials, but as reported within the October 1987 Remediation Plan, the groundwater contamination is limited to the perched groundwater on the site which would have a low potential to impact the nearby schools. Soils on the site that are contaminated with hazardous materials would be properly managed using BMPs and *MM-HAZ-1 Health and Safety Plan and Soil Management Plan*. Impacts would be less than significant with mitigation incorporated.

#### *Operations*

Transit vehicles would operate within one quarter miles of existing or proposed schools; however, they would not involve the handling or transport of acutely hazardous materials, substances or waste that could be emitted and impact the nearby schools of the area. Lithium batteries within the ZEB's that would be driving throughout the city would not have the potential to leak. Regulations exist to ensure that lithium-ion batteries are managed properly, and disposed of appropriately.

As detailed above under threshold (a), the lithium ion batteries would be disposed of properly in compliance with California law, which reduces the potential for the hazardous material to be emitted in a way that would impact schools. Impacts would be less than significant.

**d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

The project area is located at a site identified as an "Open Active Leaking Underground Storage Tank Site" with the State Water Board GeoTracker database. The project area is located down-gradient of the contamination source and impacted groundwater and soil plume. The specific project area is not within the area of assessment associated with the release case. The excavation of potentially contaminated soils and groundwater will require a worker Health and Safety Plan and Soils Management Plan that outlines potential risks, proper containment, laboratory analysis, transportation, and disposal of impacted soil and groundwater. The current project site has been used as a transportation maintenance facility since 1947, and would continue to operate as such with the implementation of the proposed project. The proposed project would not increase the contamination of the site in a way that would create a significant hazard to the public or to the environment with implementation of *MM-HAZ-1 Health and Safety Plan and Soil Management Plan* and relevant BMPs during construction. Impacts would be less than significant with mitigation incorporated.

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area.**

The Oakland International Airport is located less than 2 miles away from the project site. According to the Alameda County Airport Land Use Commission and Airport Land Use Compatibility Plan, the proposed project is located outside the land use compatibility plan and therefore would not result in safety hazard or excessive noise for people working in the area<sup>70</sup>. There would be no impact and no mitigation is required.

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<sup>70</sup> The Alameda County Airport Land Use Commission and Airport Land Use Compatibility Planning  
<https://www.acgov.org/cda/planning/generalplans/airportlandplans.htm> (Accessed on July 5, 2019)

- f) **The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

No existing access ways would be closed or changed. The buses would not present an obstacle to emergency vehicles or evacuation. The proposed project would not create conditions that would adversely affect an adopted emergency response plan or emergency evaluation plan. There would be no impact and no mitigation is required.

- g) **The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.**

The proposed project is not located in or near a state or local responsibility areas or lands classified as very high fire hazard severity zone as identified in the Alameda County Very High Fire Hazard Severity Zones Map<sup>71</sup>. Therefore, the proposed project would not expose people or structure to a risk of loss, injury or death involving wildland fires. There will be no impact and no mitigation is required.

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#### 4.9.3 MITIGATION MEASURES

##### MM-HAZ-1: Health and Safety Plan and Soil Management Plan

Prior to any excavation, the project sponsor along with the contractor will prepare and implement a Health and Safety Plan and a Soil Management Plan to avoid and minimize impacts from hazardous material to construction workers and the general public during construction.

The Health and Safety Plan shall include:

- Site-specific facility and project information;
- Identification of Site Health & Safety Officers’
- Descriptions of each project task as well as job safety analysis sheets for the respective tasks;
- Identification and safety datasheets for potential on-site hazardous materials;
- Identification of site safety controls and decontamination procedures;
- First aid and medical monitoring Information;
- Personal protective equipment requirements;
- Accident investigation and reporting procedures;
- Contingency plan and emergency procedures, including contact and notification systems, evacuation routes, and hospital routes;
- Training requirements for workers and on-site visitors; and
- Site maps, job task references, and supporting documentation.

The Soils Management Plan shall include:

- Site background, hazardous materials data, and contaminant distribution details;
- Description of project responsibilities and scope of work;
- Description of environmental activities associated with on-site work, including: worker preparation and training details; pre-excavation soil characterization plans; soil loading, transportation, and disposal plans; site control measures; and site-specific soil management protocols;

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<sup>71</sup> California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, Alameda County Very High Fire Hazard Severity Zones Map, [http://www.fire.ca.gov/fire\\_prevention/fhsz\\_maps\\_alameda](http://www.fire.ca.gov/fire_prevention/fhsz_maps_alameda) (accessed on June 21, 2019)



- Site plans and truck loading plan; and
- A copy of the site-specific health and safety plan.

In the event of exposing hazardous material during construction, the contractor will implement standard measures required by the federal, state, and local regulations for the collection, transport, and disposal of the material to prevent the exposure of workers and the public to such material. The specific measures will be outlined in the Health and Safety Plan and in the Soils Management Plan.

#### 4.10 HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.10.1 EXISTING CONDITIONS

The project site is located in Peralta Creek Watershed, which drains a portion of the Oakland hills and flatlands into East Creek and San Leandro Bay<sup>72</sup>. The project site is located in an area of minimal flood hazard (Zone X) according to the Federal Emergency Management Agency (FEMA)'s Flood Insurance Rate Map (FIRM)'s panel 06001C0089H<sup>73</sup>. It is located approximately 0.60 miles from the San Leandro Bay, approximately 0.2 miles from an above ground tributary of the East Creek Slough that passes underneath Coliseum Way, approximately 0.15 mi from Lions Creek and is directly above the underground/culverted Seminary Creek<sup>74</sup>.

In 1987, USTs were removed from the project site has had USTs, and groundwater has been sampled semi-annually through monitoring wells installed the same year to determine groundwater quality on a regular basis. Currently, the source of contaminants still stem from the sites of these removed USTs, and are transported due to infiltration of precipitation through cracks and seams in the pavement of the site.<sup>75</sup>

The project site is within an urban area served by utility service systems, including water, wastewater and stormwater collection and treatment, and solid waste collection and disposal. Water service, wastewater and stormwater collection and treatment are managed by the Alameda County Flood Control and Water Conservation District under Zone 12.

The existing bus parking area periodically collects water (up to about 6 inches deep) in the bus parking area due to the downstream capacity of the stormwater drainage system.

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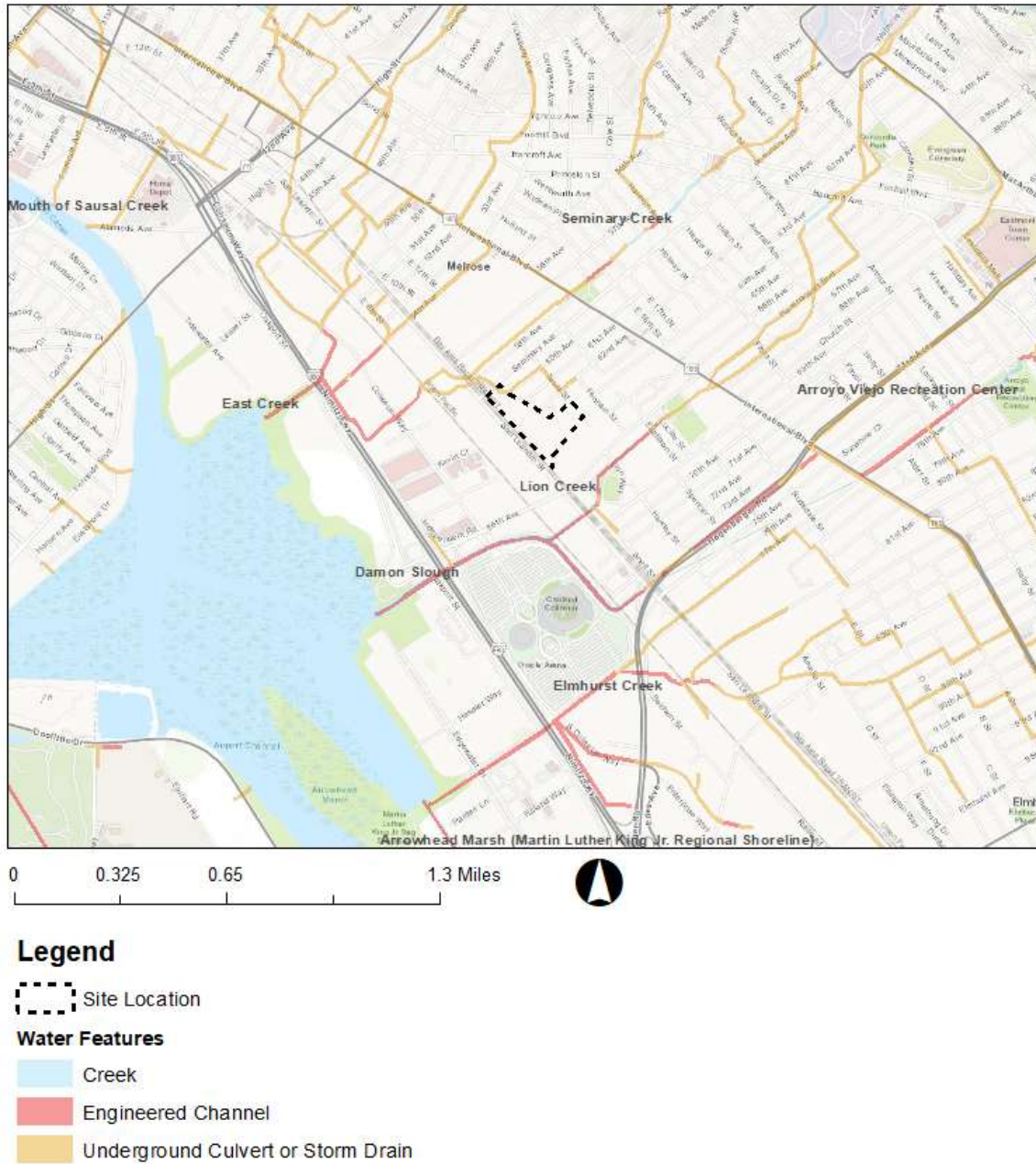
<sup>72</sup> Alameda County Flood Control and Water Conservation District. Peralta Creek Watershed.  
<https://acffloodcontrol.org/resources/explore-watersheds/peralta-creek-watershed/> (accessed July 16, 2019).

<sup>73</sup> FEMA. FIRM Map No. 06001C0089H, effective 12/21/2018.  
<https://msc.fema.gov/portal/search?AddressQuery=1100%20Seminary%20Avenue%2C%20Oakland%2C%20CA#searchresultsanchor> (accessed on July 15, 2019).

<sup>74</sup> City of Oakland. Map of Oakland's Creeks.  
<http://www2.oaklandnet.com/oakca1/groups/pwa/documents/image/oak066215.pdf> Accessed on July 15, 2019.

<sup>75</sup> AC Transit. Revised: Technical Report/Corrective Action Plan (CAP) regarding the 2013 Soil Investigation Report for the AC Transit 1100 Seminary venue Facility, November 2013. Section 1.6. p.3.

Figure 18. Alameda County Flood Control and Water Conservation District – Water Features



Source: Alameda County Flood Control and Water Conservation District, Peralta Creek Watershed, 2019; Map created by WSP USA, September 2019.

#### 4.10.2 IMPACTS ANALYSIS

- a) **The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality**

##### *Construction*

Oakland's stormwater ordinance<sup>76</sup> includes guidelines for development and construction projects taking place in or near creeks (since 1997). The intent of the ordinance is to minimize negative impacts to creeks associated with development or construction on creek side properties. City of Oakland's Municipal Code Ordinance Article 2 (Discharge Regulations and Requirements) includes Section 13.16 Creek Protection (Stormwater Management and Discharge Control requirements) and Section 13.16.100<sup>77</sup> (Reduction of pollutants in stormwater).

The site is also subject to the County of Alameda's Code of Ordinances, which includes Chapters 13.08 (Stormwater Management and Discharge Control), Chapter 13.12 (Water Course Protection Ordinance), Chapter 15.36 (Grading, Erosion and Sediment Control), and Chapter 15.40 (Floodplain Management)<sup>78</sup>.

The site is currently covered under the General Permit for Stormwater Discharges Associated with Industrial Activities (IGP) and the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities that is regulated by the California Water Boards Central Coast Region 3<sup>79</sup>. The City of Oakland, a member of the Alameda Countywide Clean Water Program, is currently subject to NPDES Permit No. CAS0029831 issued by Order No. R2- 2003-0021 on February 19, 2003, and amended by Order No. R2-2007-0025 on March 14, 2007, to the Alameda Permittees to discharge stormwater runoff from storm drains and watercourses within their jurisdictions.

During construction, contractors are required to implement year-round stormwater BMPs and a monitoring plan under the Stormwater Pollution Prevention Plan (SWPPP). The implementation of BMPs during construction would ensure that the proposed project would comply with applicable City of Oakland's and Alameda County's Ordinances. Any material in stormwater runoff stemming from construction or operations of the facility would be captured and treated using existing municipal stormwater systems. Existing maintenance facilities are required to comply with local, state and federal laws that regulate the handling and transportation of hazardous materials. See Section 4.9 Hazards and Hazardous Materials for mitigation measure MM-HAZ-1 that covers dewatering precautions.

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<sup>76</sup> City of Oakland. An Ordinance Amending in its Entirety Chapter 13.16 of the Oakland Municipal Code. OMC 13.16: Creek Protection, Storm water Management and Discharge Control Ordinance.  
<http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak024460.pdf> Accessed on July 15, 2019.

<sup>77</sup> City of Oakland. Ordinance No. 10446 C.M.S., entitled "Ordinance for Erosion and Sedimentation Control to Supplement Ordinance No. 10312 C.M.S. (Section 15.04.780 of the Oakland Municipal Code) dated January 18, 1983.  
[https://library.municode.com/ca/oakland/codes/code\\_of\\_ordinances?nodeId=TIT13PUSE\\_CH13.16CRPRSTWAMADICO\\_ARTIIDIRERE\\_13.16.100REPOSTWA](https://library.municode.com/ca/oakland/codes/code_of_ordinances?nodeId=TIT13PUSE_CH13.16CRPRSTWAMADICO_ARTIIDIRERE_13.16.100REPOSTWA) Access on July 15, 2019.

<sup>78</sup> Alameda County Flood Control and Water Conservation District. Policy and Guidelines.  
<https://acffloodcontrol.org/resources/policy-guidelines/> Accessed on July 16, 2019.

<sup>79</sup> California Water Boards, Central Coast Region 3. Industrial Program Overview.  
[https://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/stormwater/industrial.html](https://www.waterboards.ca.gov/centralcoast/water_issues/programs/stormwater/industrial.html) Accessed on July 16, 2019.

## Operations

Runoff from streets and other paved areas is a major source of pollution to San Francisco Bay. Operation and maintenance of the proposed project would include use of transit vehicles and their maintenance. Ongoing and future operation of transit vehicles would be a source of heavy metals, oil and grease.

The proposed project would not introduce new impervious surfaces to the project site, other than within the landscaping for the transformer, and therefore would not substantially alter how water is currently discharging of the site. The proposed project would not modify the creeks located within the area. The replacement of diesel fuel buses with ZEBs may reduce the potential for contamination of waters by fuels and pollutants associated with a traditional diesel fueled fleet, and would not introduce contamination from lithium batteries with implementation of BMPs. The replacement of pavement on the site would not introduce new areas of infiltration that would elevate the contaminant levels in the groundwater from the excavated USTs sites. which would remove a potential pooling of contaminated runoff from draining into the stormwater system.

Furthermore, under the General Permit for Stormwater Discharges Associated with Industrial Activities (IGP), the project sponsor will develop a Stormwater Pollution Prevention Plan (SWPPP) and a monitoring plan as required and identify site-specific sources of pollutants and describe the measures to apply to reduce stormwater pollution.

With implementation of BMPs, compliance with state and local regulation and implementation of mitigation measure *MM-HAZ-1 Health and Safety Plan and Soil Management Plan*, the proposed project would have less than significant impact with mitigation incorporated.

**b) The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

Excavation activities could require removal of groundwater during construction. Groundwater at the project area is very shallow and was estimated at 1.59 to 2.73 feet bgs in March 2019<sup>80</sup>. There is a potential for the drilled concrete piers supporting the columns of the deck to encounter groundwater. If groundwater is encountered during drilling and excavation, dewatering activities would be required and pollutants could be discharged through pumping of the excess water into storm drains. The contractor would be required to fully conform to the requirements specified in Section 4.9 Hazards and Hazardous Materials mitigation measure that covers dewatering precautions, implement BMPs and comply with local and states regulations as described in Section 4.19 Utilities and Service Systems.

The existing concrete pavement under the area of the proposed deck (approximately 35,490 square feet) and the existing concrete pavement around the proposed deck (approximately 25,670 square feet) would be replaced with new concrete pavement on the project site, a total of approximately 61,160 square feet of pavement (removed and replaced). This replacement is not expected to require excavation that is deep enough to encounter groundwater and necessitate dewatering. The replacement of pavement would not replace any existing pervious areas that would reduce groundwater recharge, and would not interfere with existing groundwater recharge during operations.

Temporary bus parking would necessitate paving of part of the area on Tevis Street site, directly adjacent to D4 site, for storage of fleet vehicles while the deck is being constructed. This pavement would remain on the site post-construction and introduce a new area of impervious surface. This site is currently being used as a storage area for AC Transit's inactive fleet, and is composed of compacted ground that does not currently allow substantial amounts

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<sup>80</sup> AC Transit. 2019 Q1 Semi-Annual Groundwater Monitoring Report File No. 01-2348. Table 1: Groundwater Level Measurements. April 2019.



of infiltration to groundwater. The paving of this site would not substantially impact groundwater recharge in a way that would impede sustainable groundwater management of the basin.

With implementation of mitigation measure *MM-HAZ-1 Health and Safety Plan and Soil Management Plan* and compliance with state and local regulation, the proposed project would have a less than significant impact with mitigation incorporated on the reducing the supply of and recharge of groundwater of the basin.

- c) **The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces that would not result in a substantial erosion or siltation on- or off-site, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.**

Development of the proposed project would occur on an already developed site within an existing urban watershed. The project site is currently completely paved with impervious surface, and the proposed project would not introduce an increase in impervious areas that would significantly impact drainage patterns or the amount of runoff off the site. The paving of the temporary bus parking area would not significantly impact existing drainage patterns in a way that would impact erosion, stream course, or the capacity of existing stormwater drainage systems, nor would it provide substantial additional sources of polluted runoff. The same BMPs and SWPPP measures would be implemented on the construction staging site to avoid and minimize impacts to water resources.

All excavated materials from replacement and installation of the deck would be stored and transported offsite in compliance with Oakland Municipal Code Section 12.12.250<sup>81</sup> (Excavations – Disposition of surplus materials) to avoid the materials from altering the drainage pattern of the project site and from altering the course of nearby creeks through obstruction or erosion.

As described in Chapter 1 Project Description, the existing bus parking area periodically collects water (up to about 6 inches deep) in the bus parking area due to the downstream capacity of the stormwater drainage system. During the final design, the drainage will be evaluated to identify potential onsite modifications to reduce or eliminate this periodic ponding in the bus parking area. The new design would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

The proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Any water being used for the proposed project's construction of the deck and the replacement of the pavement would be managed under the BMPs to avoid discharges into storm drains. Operations of the facility with the proposed project additions would not increase the amount of runoff that discharges into the storm drains per the IGP. Water used to maintain the site and to wash the buses would continue to be managed under current procedure and would not change in a way that would increase discharge into the stormwater system.

The proposed project would not provide substantial additional sources of polluted runoff since the facility is required to operate under regulations for hazardous waste and requirements under the IGP. Replacement of the pavement, replacement of fuel based vehicles, and construction of the deck would not increase or introduce new

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<sup>81</sup> City of Oakland. Municipal Code Section 12.12.250 (Excavations – Disposition of surplus material). [https://library.municode.com/ca/oakland/codes/code\\_of\\_ordinances?nodeId=TIT12STSIPUPL\\_CH12.12EX](https://library.municode.com/ca/oakland/codes/code_of_ordinances?nodeId=TIT12STSIPUPL_CH12.12EX) Accessed on July 15, 2019.

sources of polluted runoff from the site since the facility is subject to regulations and implementation of BMPs as detailed above. The creeks nearby would not be impacted or altered by the proposed project since existing drainage on the site would not be changed by the proposed project's improvements.

With compliance of the proposed project to the Oakland's Municipal Code and Alameda County ordinances, and the IGP and NPDES permits and implementation of BMPs, the proposed project would have a less than significant impact with mitigation incorporated to drainage of the site and to the course of a stream through impervious surfaces.

**d) The proposed project is not located in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation**

The proposed project is located in an area of minimal flood hazard (Zone X) per FEMA's FIRM map<sup>82</sup>, and would not be at risk of releasing pollutants to nearby creeks found in association with the vehicles, fuel, maintenance facilities, and infrastructure of the site due to flooding and inundation. The project site is not located near any major open water bodies that would result in being in imminent danger of being within a tsunami or seiche zone. Therefore, there would be no impact and no mitigation is required.

**e) The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.**

The proposed project will comply water quality and groundwater regulations, as detailed above under impact threshold (a). No component of the proposed project would obstruct implementation of these plans and regulations. The proposed project would comply with Oakland's Municipal Code related to water quality, stormwater management, and ground water management, as well as Alameda County's Clean Water Program which includes erosion control and sediment control BMP's from the California Stormwater Quality Association<sup>83</sup>, the IGP, and the NPDES permits. Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact and no mitigation is required.

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<sup>82</sup> FEMA. FIRM Map No. 06001C0089H, effective 12/21/2018.

<https://msc.fema.gov/portal/search?AddressQuery=1100%20Seminary%20Avenue%2C%20Oakland%2C%20CA#searchresultsanchor> (accessed on July 15, 2019).

<sup>83</sup> Alameda County. Alameda County Clean Water Program: State Construction Permit BMP Fact Sheets. 2009.

<https://www.cleanwaterprogram.org/businesses/construction.html> Accessed on July 15, 2019.

## 4.11 LAND USE AND PLANNING

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.11.1 EXISTING CONDITIONS

The project site is located in an area used by transportation infrastructure and industrial land use along San Leandro Street, with residential neighborhoods adjacent to the northern end of the site.

### 4.11.2 IMPACTS ANALYSIS

#### a) The proposed project would not divide an established community.

The division of an established community would typically involve the construction of a physical barrier to neighborhood access, such as a new freeway or the removal of a means of access, such as a bridge or a roadway. The proposed project would be incorporated into the existing D4 site and on the adjacent Tevis Street site and no changes are anticipated to be made to the streets surrounding the facility. The proposed project would not alter the established street grid or permanently close any streets or impede pedestrian or other travel through the neighborhood. The proposed project would not alter the general land use pattern of the immediate area, which already includes a mix of uses including industrial along San Leandro Avenue and residential along Seminary Avenue.

Furthermore, as described in the project description and detailed in Section 4.17 Transportation, the proposed project would replace up to 40 existing diesel buses with an equal number of ZEBs and would not generate traffic that would divide or disturb an established community.

Accordingly, the proposed project would not disrupt or physically divide an established community. Therefore, the project would have no impact with respect to physically dividing an established community.

#### b) The proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Land use impacts are considered to be significant if the proposed project would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Environmental plans and policies are those, like the Bay Area Air Quality Management District Bay Area 2017 Clean Air Plan, which directly address environmental issues and/or contain targets or standards, which must be met in order to preserve or improve characteristics of the city's physical environment. Section 3 Project Setting, describes the proposed project's compatibility and consistency with existing land use, zoning, and planning.

The proposed project would not conflict with the City of Oakland General Plan policies or regional land use plan, policy or regulation that relate to land use and planning as described in Section 3 Project Setting. Therefore, the proposed project would have less-than-significant impact with regard to consistency with existing plans, policies and regulations. No mitigation is required.

## 4.12 MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.12.1 IMPACTS ANALYSIS

- a) **The proposed project would not result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state.**

Transition to zero emission would reduce the quantity of diesel fuel, oil and other automotive chemicals used in the maintenance and operation of diesel buses but will increase the number of lithium batteries for the ZEBs. This would result in increased rates of production of lithium batteries and hydrogen fuel cells. For lithium-ion batteries, it is anticipated they still have a useful life at the end of bus life, and are likely to be repurposed for a second life. Therefore, with repurpose of the batteries, loss of availability of a known mineral resource (lithium) during project operation would not pose any substantial problems. Impacts would be less than significant and no mitigation is required.

- b) **The proposed project would not 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.**

As defined in the EA for the Innovative Clean Transit Regulation, the project sponsor need to demonstrate any overlap areas between the proposed plan and locally-important mineral resources delineated on a local general plan, specific plan, or other land use plan. Proponents will avoid locating facilities that would result in the loss of availability of locally-important mineral resources, as much as possible. The California Department of Conservation define the Mineral Land Classification for the San Francisco Bay Area. As defined in the map, the project site is location in a Mineral Resource Zone (MRZ) 1 which mean that that it is an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence<sup>84</sup>. Therefore, the proposed project is not located in an area with known mineral resources. Thus, the

<sup>84</sup> Stinson, Melvin, Michael W. Manson and John J. Plappert, California Department of Conservation, Mineral Land Classification, Aggregate Materials in the San Francisco Monterrey Bay Area, Mineral Land Classification Map, Aggregate Resources Only, Alameda and Contra Costa Counties, Oakland East California, <https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc> (accessed on June 21, 2019)

proposed project would not result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state. Impacts would be no impact and no mitigation is required.



## 4.13 NOISE

Would the project result in:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.13.1 EXISTING CONDITIONS

The proposed project site, 1100 Seminary Avenue and 6235 Tevis Street, is located in an urbanized part of Oakland surrounded by buildings and transportation infrastructure. Single-family residential units are located northeast side of the project site separated by an 8 to 10-foot masonry brick wall. Based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018), it is estimated the existing noise level for the area is 65 decibel A-weighting (dBA) Day Night Average Sound Level (LDN). Additionally, based on the City of Oakland's Noise element, the project area falls within the 65 dBA LDN noise contour for both rail and roadway.

The current bus facility has a total fleet of 03 buses, where 188 buses are diesel powered and 15 buses BEBs or FCEBs. Based on the FTA Noise Impact Assessment modeling, existing noise level from the bus facility was modeled to be 65.1 dBA LDN at a residential unit approximately 60 feet from the nearest bus parking stall.

### 4.13.2 IMPACTS ANALYSIS

- a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels. The project proposes to replace up to 40 diesel powered buses with the same amount of ZEBs. The proposed project would also include the infrastructure required to accommodate the projected number of battery electric

buses. The infrastructure will include additional electrical service, transformers, switchgear, and charging equipment, additional emergency power, and construction of a new concrete deck that will allow charging the buses with plug-in infrastructure to on-site transformers. Temporary construction and demolition activities would be required to abide by the noise level standards set within the City of Oakland Municipal Code and standards established in the Oakland General Plan. The overall noise level does not change for the area, which was modeled to be 65.1 dBA LDN due to the noise generated from movement of the ZEBs and operation of the facility<sup>85</sup>.

### *Operations*

The proposed project would increase ZEBs in operation and would decrease conventional diesel, natural gas, or gasoline buses in operation. Testing has demonstrated that battery electric buses are, on average, quieter than diesel buses. Altoona Bus Research and Testing Center found that the operational noise levels of a BEB is approximately 60 dBA during acceleration in comparison to the New Flyer C40LF CNG diesel bus which generated approximately 71.8 dBA during acceleration. Operation of ZEBs would therefore result in a net decrease in traffic noise levels where ZEBs are deployed.

There would be a less than significant impact on ambient noise levels in the vicinity of the project.

#### **b) Generation of excessive ground borne vibration or ground borne noise levels?**

The proposed project would not generate excessive ground borne vibration or ground borne noise levels. Temporary construction and demolition activities would be required to abide by the vibration level standards set within the City of Oakland Municipal Code and standards established in the Oakland General Plan.

There would be no impact from the project through ground borne vibrations or ground borne noise levels.

#### **c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

The project would not expose people residing or working within the project area to excessive noise levels. The project is located 2.0 miles southwest of the Oakland International Airport and is not within the area subject to the Oakland International Airport Land Use Compatibility Plan<sup>86</sup>.

There would be no impact from the project on exposing people residing or working in the area to excessive noise levels because the project is not within the vicinity of a private airstrip, subject to an airport land use plan, and not within 2 miles of a public/public use airport, therefore, it would not expose people residing or working in the project area to excessive noise levels (from being “close” to the airport).

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<sup>85</sup> Federal Transit Administration, Noise Impact Assessment Spreadsheet, Calculation done by WSP USA, August 2019.

<sup>86</sup> The Alameda County Airport Land Use Commission and Airport Land Use Compatibility Planning  
<https://www.acgov.org/cda/planning/generalplans/airportlandplans.htm> (Accessed on July 5, 2019)

#### 4.14 POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### 4.14.1 IMPACTS ANALYSIS

- a) **The proposed project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).**

The proposed project would help AC Transit to fulfil its goals of reducing emissions through providing suitable infrastructure to support its ZEB fleet, and would not be proposing the construction of infrastructure that would induce growth in the surrounding communities. The proposed project is intended to expand ZEB service through replacement of non-ZEB. Proposed improvements are intended to accommodate the replacement of diesel vehicles with ZEB's and to reduce emissions, and would not increase the number of employees on the site.

Therefore, the proposed project would have no impact. No mitigation is required.

- b) **The proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.**

All improvements would occur within the existing transportation property of the AC Transit facility located at 1100 Seminary Avenue and 6235 Tevis Street. No housing or people would be displaced resulting in the need to construct replacement housing elsewhere; there would be no impact to the residents nearby the site. No mitigation is required.

#### 4.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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 public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### 4.15.1 IMPACTS ANALYSIS

- a) The proposed project would not 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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks or any other public facilities.

The proposed project would limit construction to the project site, and would not impact the local roads through construction or detours. The proposed project would not limit or obstruct access to driveways, businesses, residents, schools, parks, or other public facilities and would not increase populations in a way that would necessitate the provision of new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Due to the lack of need to build new facilities or to alter existing government facilities as a result of this proposed project, there would be no impact. No mitigation is required.

## 4.16 RECREATION

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

### 4.16.1 IMPACTS ANALYSIS

- a) **The proposed project would not 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.**

The intent of the proposed project would not increase the use of existing neighborhood and regional parks and recreational facilities that would result in physical deterioration. The proposed project is intended to expand and accommodate ZEB transit service through replacement of non-ZEB vehicles and to construction supporting infrastructure on the project site. The nearest neighborhood park, Coliseum Garden, is located on Lion Way, approximately 1,200 feet southeast of the proposed project site. No recreational facilities or parks would be impacted, either directly or indirectly, since no increase in population would induced to use the existing facilities and parks.

Therefore, the proposed project will have no impact on increasing use of neighborhood and regional parks or recreational facilities.

- c) **The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.**

The proposed project intends to construct infrastructure to accommodate the charging of new and replacement ZEB buses. The project does not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, there is no impact on recreational facilities that would cause a physical effect on the environment.

## 4.17 TRANSPORTATION

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The Transportation section was developed using the *AC Transit Zero Emission Buses Project - Traffic Operations Study* prepared by CHS Consulting Group in August 2019.

### 4.17.1 EXISTING CONDITIONS

The project site is located in Central East Oakland neighborhood in the City of Oakland. Access to the project site by vehicle, transit, walking or bicycling is available through the existing public street network, bus transit service, sidewalks and bicycle routes. The study area for the assessment of project effects on various transportation modes includes Seminary Avenue, San Leandro Street, International Boulevard and 66<sup>th</sup> Avenue. Access to the D4 site is done by Seminary Avenue.

#### 4.17.1.1 STREET NETWORK

**Seminary Avenue** is an east-west, two-lane local street with an approximate width of 36 feet and a posted speed limit of 30 miles-per-hour in the project vicinity. There are contiguous sidewalks and intermittent on-street parallel parking on both sides of the street. There is an AC Transit bus stop along the north side of Seminary Avenue directly across the street from the Project site, as well as an AC Transit bus stop and layover along the south side of Seminary Avenue along the Project frontage. There are no existing bicycle facilities on Seminary Avenue.

**San Leandro Street** is a north-south, four-lane arterial street with an approximate width of 50 feet and a posted speed limit of 35 miles-per-hour in the project vicinity. San Leandro Street has contiguous sidewalks along the west side of the street, with no sidewalk infrastructure along the east side of the street. There is no on-street parallel parking and no bicycle facilities along the roadway.

**International Boulevard** is a north-south, five-lane arterial street with an approximate width of 72 feet and a posted speed limit of 25 miles-per-hour in the project vicinity. International Boulevard has continuous sidewalks and



intermittent parallel on-street parking along both sides of the street, two southbound travel lanes, two northbound travel lanes, and a center two-way turn lane, with no bicycle facilities in the project vicinity.

**66<sup>th</sup> Avenue** is an east-west, two-lane collector street with an approximate width of 40 feet and a posted speed limit of 30 miles-per-hour. In the vicinity of the project site, 66<sup>th</sup> Avenue has contiguous sidewalks and parallel on-street parking on both sides of the street. There are no bicycle facilities along the roadway.

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#### 4.17.1.2 OFF-STREET PARKING

Off-street parking facility is offer to employees working at the D4 site and is accessible by Seminary Avenue. Traffic count for the employee parking garage were performed on Thursday, March 21, 2019 between 5:00 a.m. and 9:00 pm. The peak hour of employee vehicle activity occurred between 5:00 a.m. and 6:00 a.m., with 95 vehicles entering and exiting the parking garage. A secondary peak of employee vehicle activity occurred between 2:00 p.m. and 3:00 p.m., with 80 vehicles entering and exiting the parking garage.

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#### 4.17.1.3 BUS TRAFFIC VOLUME

Traffic ingress and egress volumes at D4's inbound and outbound driveways were performed at the same time the employees off-street parking facility. During the day, there were 1,554 bus ingress and egress trips at D4. The peak hour of bus activity occurred between 5:15 a.m. and 6:15 a.m., when 55 buses departed D4 (24 buses turning onto eastbound Seminary Avenue, and 31 buses turning onto westbound Seminary Avenue, respectively). A secondary outbound peak occurred between 1:15 p.m. and 2:15 p.m., when 45 buses departed the D4 site (30 buses turning onto eastbound Seminary Avenue, and 15 buses turning onto westbound Seminary Avenue, respectively). The peak hour for inbound bus activity occurred between 7:00 p.m. and 8:00 p.m., when 50 buses returned to the D4 site (29 eastbound buses turning into the D4 driveway, and 21 westbound buses turning into the D4 driveway, respectively). Secondary inbound peak hours occurred between 8:15 a.m. and 9:15 a.m., and between 8:30 a.m. and 9:30 a.m., when 39 buses returned to the D4 yard.

Based on the observed bus and employee vehicle trips at the project driveways, peak project bus and employee vehicle traffic does not coincide with peak traffic conditions along Seminary Avenue. This is because employees arrive early to D4 and take buses out to run service routes in advance of AM and PM peak traffic periods.

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#### 4.17.1.4 BUS OUTBOUND AND INBOUND DRIVEWAYS MODIFICATION

As describe in the Project Description, the inbound and outbound bus access points are proposed to be reversed as part of this project (i.e., inbound access would occur via the drive immediately east of the existing parking garage and outbound access would occur via the driveway immediately west of the existing parking garage), both onto Seminary Avenue.

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### 4.17.2 IMPACTS ANALYSIS

- a) **The proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities**

#### *Transit*

As described in Section 3 Project Setting, as part of the AC Transit Strategic Plan, modernization of the maintenance facility is a priority for AC Transit to provide safe and secure operations, convenient and reliable service, high-performing workforce and environmental improvement. This is in line with the City of Oakland General Plan to ensure that the existing services and facilities in Oakland are improved, maintained, and preserved. Therefore, the

proposed project would not conflict with a program, plan ordinance or policy regarding transit. The proposed project would have a no impact on transit activities. No mitigation is required.

#### *Bicycle*

There is currently no bicycle facility on neither Seminary Avenue, San Leandro Street, 66<sup>th</sup> Avenue nor International Boulevard. The proposed project would not eliminate or impede access to existing bicycle routes, would not create unsafe conditions for bicyclists, nor substantially interfere with bicycle accessibility; and therefore, the proposed project would have less-than-significant impacts on bicycle activities. No mitigation is required.

#### *Pedestrian*

As described above, pedestrian's infrastructures in the project vicinity include continuous sidewalks on every major street on at least one side. The proposed project is not located in a high injury pedestrian corridor according to the City of Oakland Pedestrian Plan Update.<sup>87</sup> The proposed project would not obstruct any sidewalk during construction or operation and would not conflict with any goals listed in the pedestrian plan. Therefore, impacts would be less than significant. No mitigation is required.

#### *Roadway*

The proposed project would not modify the existing roadway system in the project vicinity. Since the proposed project would replace diesel buses with the same number of ZEBs, there would be no additional buses and no increase in traffic on the roadway network. Demolition of the wall between the D4 site and the temporary bus parking during construction would allow access to the temporary parking via Seminary Avenue and not 66<sup>th</sup> Avenue. Therefore, traffic condition on 66<sup>th</sup> Avenue would not increase during construction due to rerouting of the buses.

Operation of the proposed project would result in less than significant impacts on the roadway network. During construction, there is a potential for increase in trucking or obstruction of the public right-of-way. Since construction-related impacts generally would not be considered significant due to their temporary and limited duration, the proposed project would result in less-than-significant construction-related transportation impacts. No mitigation is required.

### **b) The proposed project would not cause substantial additional VMT nor substantially induce automobile travel**

#### *VMT Analysis*

A proposed project would have a significant effect on the environment if it would cause substantial additional VMT. The Governor's Office of Planning and Research recommends screening criteria to identify types, characteristics, or locations of projects that would not result in significant impacts to VMT<sup>88</sup>. If a project meets screening criteria, then it is presumed that VMT impacts would be less than significant for the project and a detailed VMT analysis is not required.

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<sup>87</sup> Oakland Pedestrian Plan Update, Map 2.1 High Injury Network (2008-2014) <https://cao-94612.s3.amazonaws.com/documents/Ped-Plan-2017-rev-sep2018-compressed.pdf> (accessed on August 9, 2019)

<sup>88</sup> State Office of Planning and Research. January 2016. *Revised proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA* *Transportation Impacts in CEQA*, [http://www.opr.ca.gov/docs/Revised\\_VMT\\_CEQA\\_Guidelines\\_Proposal\\_January\\_20\\_2016.pdf](http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf) (accessed on May 8, 2019)

*Transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less than significant impact on transportation. This presumption may apply to all passenger rail projects, bus and bus rapid transit projects, and bicycle and pedestrian infrastructure projects. Streamlining transit and active transportation projects aligns with each of the three statutory goals by reducing GHG emissions, increasing multimodal transportation networks, and facilitating mixed use development. (OPR, p.32)*

Accordingly, since the proposed project would not generate any employment in the area and that it is a transit project, the proposed project is not anticipated to generate substantial additional VMT and the impact is less than significant. No mitigation is required.

#### *Induced Automobile Travel Analysis*

The proposed project would not increase the number of parking spaces at the project location and would not increase the number of employees at the project site. Therefore, the proposed project is not anticipated to induce automobile travel due to an increase in number of parking or employees. Impacts would be less than significant and no mitigation is required.

#### **c) The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses.**

The proposed project would reconfigure the access to the site by reversing the inbound and outbound bus access points of this project (i.e. inbound will be via the drive immediately east of the existing parking garage and outbound will be via the drive immediately west of the existing parking garage), both onto Seminary Avenue. A hazard study was completed in July 2019.

#### *Vehicle Conflict Analysis*

Analysis showed that while the number of vehicle conflicting points at the ingress and egress driveways is marginally more than the current bus driveway access pattern, the number of vehicles causing crossing movement conflicts are lower than the current bus driveway access pattern. The vehicle conflict analyses include the following categories:

- *Crossing*: a conflict occurring when a vehicle turns off or onto Seminary Avenue at one of the project driveways and crosses the path of on-coming vehicles;
- *Merging*: a conflict occurring when a vehicle turns off or onto Seminary Avenue at one of the project driveways at a merging point with vehicles traveling in the same direction; and
- *Diverging*: a conflict occurring when a vehicle turns off or onto Seminary Avenue at one of the project driveways at a point of divergence with vehicles driving in the same travel lane.

Under the proposed reversal of the D4 driveway operations, total vehicle conflicts would only increase by 1.3 percent at the Project driveways and along Seminary Avenue. The critical diverging and crossing conflicts would be increased by 1.3 percent for the AM and PM peak hours. Driveway conflict analysis calculations are included in

While the reversal of the driveway operations would result in a 1.3 percent increase in conflicting points and in the number of conflicting vehicles at the project driveways and along Seminary Avenue, the modification would improve driveway operations and reduce queuing of the buses during PM peak hours. While existing westbound vehicle queueing along Seminary Avenue would continue to extend beyond the west driveway, the driveway operation reversal would result in AC Transit inbound buses no longer being impacted during the PM peak period, as the existing vehicle queues would not extend to the east driveway between 5:00 p.m. - 8:00 p.m.

Furthermore, the proposed project buildings, facilities, and associated infrastructure would be designed in compliance with all applicable building and roadway local and state regulations. These regulations would prevent the construction of project buildings or roadways with design features that would create hazardous conditions for motorists, pedestrians, transit patrons, or bicyclists.

Overall, because the project would not generate any increase in vehicle traffic to and from the main driveways and adjacent streets/intersections and would not result in any evident traffic hazards related to queuing, blockages, reduction in sight distances, or potential conflicts with other modes (including pedestrians and bicyclists), the project would result in a less than significant impact to traffic hazards within the study area. No mitigation is required.

**d) The proposed project would not result in inadequate emergency access.**

Emergency access to the project site would remain unchanged from existing conditions. The street network serving the project area currently accommodates the movements of emergency vehicles traveling to the project site. There would be no permanent change to the existing roadway network. Furthermore, since the proposed project involve replacing buses, it would not generate traffic on a way that would impede the circulation of emergency vehicles. During construction, emergency access to the project site would remain unchanged. Therefore, there would be no impact to emergency access in the project vicinity. No mitigation is required.

#### 4.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

##### 4.18.1 EXISTING CONDITIONS

There are no known tribal cultural resources in the project area. On August 7, 2019, a request was sent to the Native American Heritage Commission (NAHC) for a search for tribal cultural resources in the Sacred Lands File (SLF) database at the proposed project site. On August 16, 2019, Gayle Totton from the NAHC responded in a letter indicating that the results of a SLF search for site specific information on cultural resources in the project area were negative.

##### 4.18.2 IMPACTS ANALYSIS

- a) The proposed would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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 listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or**

Although there are no known tribal cultural resources in the project area, nor are any are expected to be present on-site, new ground disturbance to install underground utility lines outside the areas of past disturbances could still result in the unanticipated discovery of an undisturbed, subsurface tribal cultural resource. Disturbance or destruction of a tribal cultural resource would be a significant impact. To avoid a significant impact on a tribal cultural resource, Mitigation Measure *MM TCR-1: Tribal Cultural Resources* would be implemented to reduce this impact to a less-than-significant level. No further mitigation would be required.

- b) **The proposed would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Although there are no known tribal cultural resources in the project area that the lead agency considers to also be significant pursuant to PRC § 5024.1(c), nor are any expected to be present on the project site, new ground disturbance to install underground utility lines outside the areas of past disturbances could still result in the unanticipated discovery of this type of tribal cultural resource. Disturbance or destruction of a tribal cultural resource would be a significant impact. To avoid a significant impact on a tribal cultural resource, Mitigation Measure *MM TCR-1: Tribal Cultural Resources* would be implemented to reduce this impact to a less-than-significant level. No further mitigation would be required.

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#### 4.18.3 MITIGATIONS MEASURES

##### **MM TCR-1: Traditional Cultural Resources.**

If cultural resources of Native American origin are identified during construction, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and an appropriate Native American representative, based on the nature of the find, is consulted. If the City of Oakland determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan would include avoidance of the resource or, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the resource in coordination with the archaeologist and the appropriate Native American tribal representative.



## 4.19 UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.19.1 BACKGROUND INFORMATION

The project site is within an urban area served by utility service systems, including water, wastewater, and stormwater collection and treatment, and solid-waste collection and disposal. Water service, wastewater, and stormwater collection and treatment are provided by the East Bay Municipal Utilities District (EBMUD), and solid-waste collection and disposal is provided by Waste Management of Alameda County Inc. Electric power to the proposed project site is provided by PG&E. The proposed project would not add new residents or new employees and activities would remain like those currently performed at the project site.

#### 4.19.2 IMPACTS ANALYSIS

- a) **The proposed project would not require or result in the in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.**

##### *Electric Power*

As discussed under Section 4.6 Energy, during operations, the use of electrical energy would increase due to the replacement of 20 to 40 diesel fuel buses with BEB's that require charging for fuel. This replacement would decrease the usage of diesel for fueling by approximately 165,900 to 331,800 gallons of diesel per year for the 20 to 40 buses which represent approximately 5 percent of the annual consumption of diesel of AC Transit<sup>89</sup>. Using a conservative approach, the demand for electrical energy would increase by approximately 2,300 to 4,600 mWh<sup>90</sup>. The electricity use to power the new ZEBs would represent approximately 0.11 to 0.21 percent of the City's total electricity consumption of 2,175,000 mWh.<sup>91</sup>

Implementation of the proposed project would increase the number of ZEBs on the road, which would divert energy demand from the direct burning of fossil fuels to the electricity grid. Public utility companies would continue to improve infrastructure and implement strategies to diversify the grid to accommodate additional electricity demand from use of ZEVs including ZEBs. A new transformer would be added to the D4 site, and would not cause a significant impact to the environment through its installation or use. Therefore, impacts would be no impact.

##### *Telecommunications Facilities and Natural Gas*

The proposed project would not increase its demand on telecommunications facilities or the consumption of natural gas. Demand and consumption will remain unchanged compared to the existing conditions. Therefore, the proposed project would have no impact.

- b) **The proposed project would not require or result in the relocation or construction of new or expanded water facilities and the utility provider have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.**

Domestic water for Oakland is supplied by imported surface water. Currently, all EBMUD's water supply begins at the Mokelumne River watershed in the Sierra Nevada and extends 90 miles to the East Bay<sup>92</sup>. EBMUD is required by the California Water Code to update and adopt an Urban Water Management Plan (UWMP) and submit a completed plan to the Department of Water Resources every five years. The UWMP provides an assessment of EBMUD's water supply and demand, an overview of the recycled water and conservation programs, compliance with

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<sup>89</sup> Calculation based on AC Transit, Total Miles Run Report, 12-01-2017 to 12-01-2018 using calculation of Table 8.

<sup>90</sup> Calculation based on AC Transit, Total Miles Run Report, 12-01-2017 to 12-01-2018 using calculation of Table 8 and WSP BOLT model using the larger ratio of 3.21 kWh/mile x 20 buses x 35,777.09 miles/buses and 3.21 kWh/mile x 40 buses x 35,777.09 miles/buses.

<sup>91</sup> City of Oakland, Energy Efficiency and Renewable Energy, <http://www2.oaklandnet.com/government/o/PWA/o/FE/s/SO/OurFocusAreas/Legislation/index.htm> (accessed on August 11, 2019)

<sup>92</sup> East Bay Municipal Utilities District, Water Supply <https://www.ebmud.com/water/about-your-water/water-supply/> (accessed on August 11, 2019)

the Water Conservation Act of 2007 and EBMUD's Water Shortage Contingency Plan. The UWMP is part of EBMUD's long-term planning to try to ensure water supply reliability for EBMUD customers, especially during drought periods<sup>93</sup>.

Activities using water in relation with the proposed project such as washing the buses would remain unchanged as the existing conditions. Therefore, the proposed project would not involve an increase for water demand. In case water demand increase incrementally, forecast for water demand is taken into account in the UWMP and would be accommodated by the existing supply. Therefore, the proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Impacts would be less than significant. No mitigation is required.

- c) **The proposed project would not require or result in the relocation or construction of new or expanded water facilities and implementation of the proposed project would not 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.**

#### *Wastewater*

Wastewater from East Bay communities flows to EBMUD's wastewater treatment plant in Oakland near the entrance of the San Francisco-Oakland Bay Bridge. EBMUD provides secondary treatment for a maximum flow of 168 million gallons per day (MGD). Primary treatment is provided for up to 320 MGD. Storage basins provide plant capacity for a short-term hydraulic peak of 415 MGD. On average, about 63 million gallons of wastewater is treated every day<sup>94</sup>. Oakland Public Work's Bureau of Design and Construction and Bureau of Maintenance and Internal Services owns and operates the sewer pipes serving the project site<sup>95</sup>.

Activities under the proposed project discharging wastewater in the sewer system would not change compared to the existing conditions. Therefore, the EBMUD and the City of Oakland would have adequate capacity to serve the existing and projected demand in addition to the provider's existing commitments. Impacts would be less than significant.

#### *Stormwater*

As explained under Section 4.7 Geology and Soils, groundwater was encounter during geotechnical investigation at a shallow depth and encountering groundwater during construction may be anticipated and dewatering activities would be necessary. During dewatering activities, the contractor would be required to fully conform to the requirements of the City of Oakland's Temporary Discharge Permit. The project sponsor in collaboration with the contractor will be required to submit an application describing the type of discharge proposed, the quality and quantity of water to be discharged, and proof of compliance with other permitting requirements. The application will be reviewed to ensure water quality goals are maintained and the proposed discharge will not overwhelm the

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<sup>93</sup> East Bay Municipal Utilities District, Urban Water Management Plan, <https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan/> (accessed on August 11, 2019)

<sup>94</sup> East Bay Municipal Utilities District, Wastewater treatments <https://www.ebmud.com/wastewater/collection-treatment/wastewater-treatment/> (accessed on August 11, 2019)

<sup>95</sup> City of Oakland, Sanitary Sewers, <https://www.oaklandca.gov/topics/sanitary-sewers> (accessed on August 11, 2019)

City's storm drain system. An approved permit specifies the conditions under which water may be discharged into the City's storm drain system. Permits are issued for a specified duration and tailored to each applicant<sup>96</sup>.

As described in the Section 1 Project Description, the existing bus parking area periodically collects water (up to about 6 inches deep) in the bus parking area due to the downstream capacity of the stormwater drainage system. During the final design, the drainage will be evaluated to identify potential onsite modifications to reduce or eliminate this periodic ponding in the bus parking area. Modification to the existing drainage system would not discharge more than the existing conditions to the City's stormwater treatment and would have less than significant impacts.

Therefore, with compliance with the permit requirements and implementation of MM-HAZ-1, impacts would be less than significant with mitigation incorporated. Mitigations are required under Section 4.9 Hazards and Hazardous Materials, mitigation measure MM-HAZ-1.

- d) **The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and construction and operation of the proposed project would comply with federal, state and local statutes and regulations related to solid waste.**

The California Integrated Waste Management Act of 1989 (AB 939) requires municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs relative to waste disposal, management, source reduction, and recycling.

The City of Oakland's Construction and Demolition Debris Waste Reduction and Recycling Ordinance is part of the City's efforts to meet local and State mandated requirements to divert materials from landfill disposal, including Oakland's goal of Zero Waste by 2020<sup>97</sup>. The intent of the ordinance is to divert at a minimum 50 percent of construction and demolition debris from landfills; process and return the materials into the economic mainstream thereby conserving natural resources; and stimulate markets for recycled and salvaged materials. The City of Oakland requires projects subject to the Recycling Ordinance to recycle 100 percent of all asphalt and concrete materials, and 65 percent of all other materials. Accordingly, during project construction, the contractor would be required to divert construction and demolition debris from the replacement of the existing concrete pavement under the area of the proposed deck (approximately 35,490 square feet) plus the existing concrete pavement around the proposed deck as well as the existing wall between the D4 site and the temporary bus parking will be demolished and removed from the site. The debris would be transported to and processed and/or disposed of at facilities permitted to accept, process and/or dispose of construction and demolition debris under applicable law.

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<sup>96</sup> City of Oakland, Apply for a Temporary Discharge Permit, <https://www.oaklandca.gov/services/apply-for-a-temporary-discharge-permit> (accessed on August 11, 2019)

<sup>97</sup> City of Oakland, Construction and Demolition Debris Waste Reduction and Recycling Ordinance, [https://library.municode.com/ca/oakland/codes/code\\_of\\_ordinances?nodeId=TIT15BUCO\\_CH15.34CODEDECOTRWARERERE](https://library.municode.com/ca/oakland/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.34CODEDECOTRWARERERE) (accessed on August 9, 2019)

Furthermore, the project sponsor would have to develop a Waste Reduction and Recycling Plan and submit a Construction and Demolition Summary Report<sup>98</sup>.

Disposal of all solid waste collected in Oakland is going to the Altamont Landfill in Alameda County. As of March 23, 2019, the landfill will no longer be able to accept waste for disposal from outside the (9) Bay Area Counties (Alameda, Marin, Sonoma, Napa, Solano, Contra Costa, San Mateo, San Francisco, and Santa Clara) due to a permit condition that goes into effect when we open a new section of the landfill on the 23rd. The site is able to accept unlimited tons for disposal from Alameda and San Francisco Counties and up to 25,000 tons annually of sludges, inert waste, and special waste from the other (7) Bay Area Counties<sup>99</sup>.

The City of Oakland has committed to a zero waste goal by 2020. Therefore, in Oakland, recycling, composting and waste reduction efforts are expected to increasingly divert waste from landfill. During the operation of the proposed project, would be expected to participate in the city's recycling and composting programs and other efforts to reduce the solid-waste disposal stream. Furthermore, the operation of the project will not increase the amount of landfill produced by the facility compared to existing conditions. For these reasons, the solid waste generated by the proposed project during construction and operation would not result in the landfill exceeding its permitted capacity, construction and operation of the proposed project would comply with all applicable statutes and regulations related to solid waste and the impact would be less than significant. No mitigation is required.

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<sup>98</sup> City of Oakland, C&D Recycling Ordinance Requirements, <http://www2.oaklandnet.com/Government/o/PWA/o/FE/s/GAR/OAK024368> (accessed on August 9, 2019)

<sup>99</sup> Waste Management, Altamont Landfill <http://altamontlandfill.wm.com/index.jsp> (accessed on August 11, 2019)

## 4.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is not located in or near a state or local responsibility areas or lands classified as very high fire hazard severity zone<sup>100</sup>. Therefore, topic a), b), c) and d) are not applicable.

<sup>100</sup> California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, Alameda County Very High Fire Hazard Severity Zones Map, [http://www.fire.ca.gov/fire\\_prevention/fhsz\\_maps\\_alameda](http://www.fire.ca.gov/fire_prevention/fhsz_maps_alameda) (accessed on June 21, 2019)



#### 4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As described in Section 4.4 Biological Resources, the proposed project would not substantially degrade or reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community.

As described in Section 4.5 Cultural Resources, Section 4.7 Geology and Soils and Section 4.18 Tribal Cultural Resources, the proposed project could result in a substantial adverse change on archeological resources; however, implementation of *MM-CULT-1: Accidental Discovery of Historical, Paleontological or Archeological Resources* would reduce the impact to a less-than-significant level. Additionally, should human remains or tribal cultural resources be encountered during construction, implementation of *MM-CULT-2: Accidental Discovery of Human Remains* and *MM TCR-1: Traditional Cultural Resources* would reduce impacts on previously unknown human remains and tribal cultural resources to a less-than-significant level. Therefore, the proposed project would not result in the elimination of important examples of major periods of California history or prehistory.

As described in Section 4.9 Hazards and Hazardous Materials, the proposed project could have an environmental effects which will cause substantial adverse effects on human beings by releasing of hazardous materials into the

environment. These impacts would be reduced to less than significant with implementation of *MM-HAZ-1: Health and Safety Plan and Soil Management Plan*.

Finally, the proposed project would beneficial impacts on multiple environmental resources such as air quality, greenhouse gases, energy and noise. As the proposed project would allow AC Transit to increase its ZEB fleet, it would lead to a reduction of particulate matter and NOx emissions from tailpipe as well as reduction of GHG emission. It would also decrease AC Transit reliance on fossil fuel and increase its dependence to renewable energy. Furthermore, ZEBs are quieter than diesel buses.

## 5 DETERMINATION

On the basis of this Initial Evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless 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 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.

Date: 9/26/2019

Signature: \_\_\_\_\_



Mika Miyasato, Project Manager

## **6 LIST OF PREPARERS**

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