CITY OF RICHMOND, CALIFORNIA

# Cherry Blossom Row

INITIAL STUDY &
MITIGATED NEGATIVE DECLARATION

JULY 2021

Douglas Herring & Associates
Environmental, Policy, and Planning Services

# Cherry Blossom Row

## Initial Study/Mitigated Negative Declaration

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# California Environmental Quality Act (CEQA)
# Environmental Checklist Form

**1. Project Title:** Cherry Blossom Row

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

City of Richmond
Planning and Building Services Department
450 Civic Center Plaza, Second Floor
Richmond, CA 94804-1630

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

Emily Carroll, Planner II
(510) 620-5558
emily_carroll@ci.richmond.ca.us

**4. Project Location:**

Assessor's Parcel Numbers (APNs): 507-251-015, 507-251-020, 507-251-021

The project site is located on the north side of Dalai Lama Avenue, just east of San Joaquin Street in the City of Richmond. Access to the site is provided Dalai Lama Avenue, Columbia Boulevard, and Napa Street. Regional access is provided by Interstate 80, located less than 50 feet to the east, and by Interstate 580, located less than 150 feet to the west.

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

City Ventures
444 Spear Street, Suite 200
San Francisco, CA 95105

Samantha Hauser, Senior Vice President of Development
samantha@CityVentures.com

**6. General Plan Designation:**

CMU – Medium-Intensity Mixed-Use (Commercial Emphasis)

**7. Zoning:**

CG – General Commercial

**8. Description of Project:**

City Ventures, the applicant, is proposing to develop a 4.74-acre site located in the Southwest Annex neighborhood in the southern end of the City of Richmond with a landscaped residential community of 100 townhome-style condominiums. The project would be located at the northern edge of an established residential neighborhood of multi-family and single-family homes. At least 10 percent of the proposed new housing units would be affordable to moderate-income households. The location of the project site is shown on Figure 1 and an aerial overview of the site and its surroundings is shown on Figure 2. The proposed site plan is shown on Figure 3.

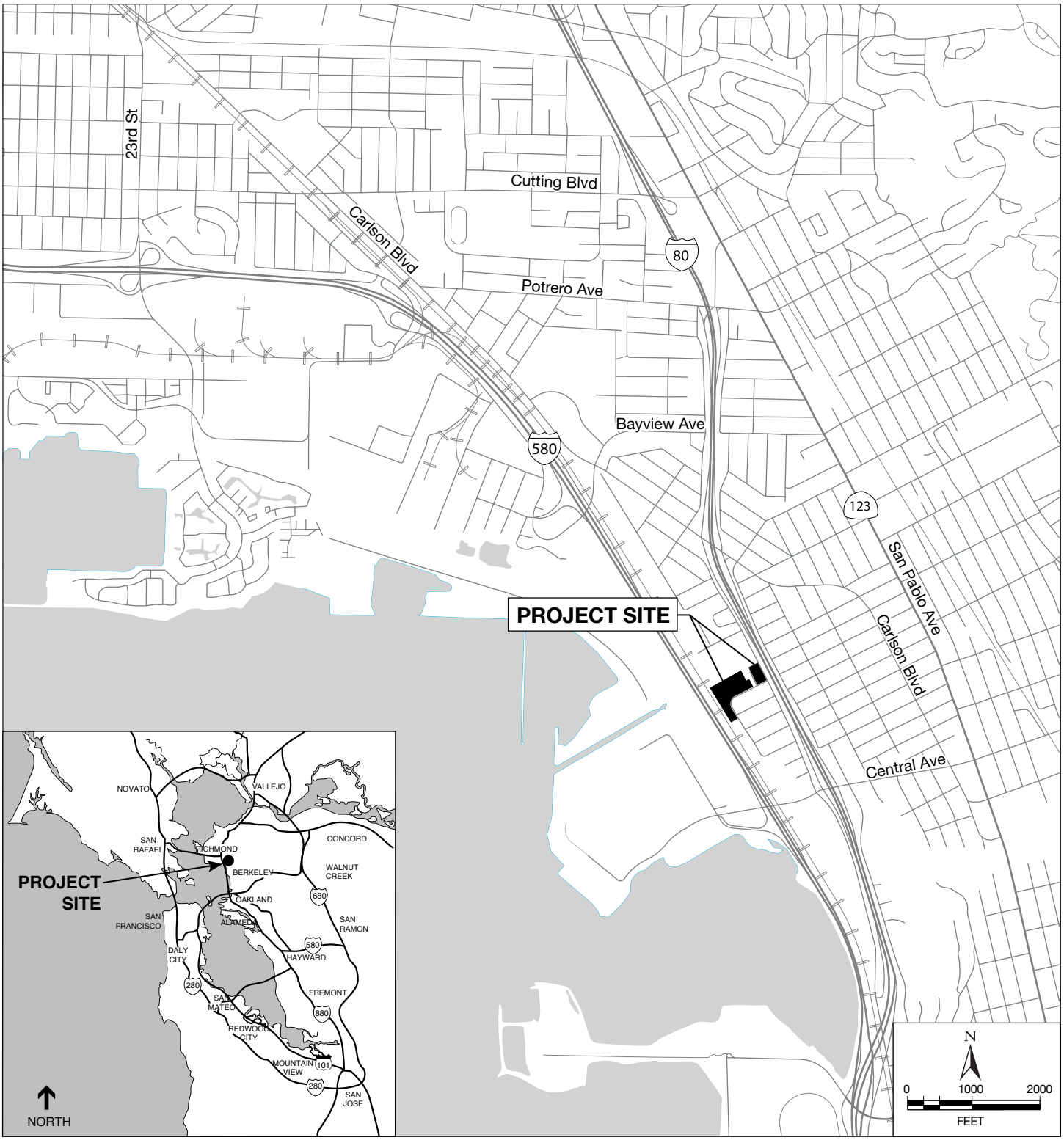
The project site is comprised of three parcels: two contiguous parcels located west of Napa Street and a separate parcel located east of Napa Street, as shown on Figure 4. As shown on Figure 2, there is existing residential development on the west side of Napa Street. This development would be retained and is not part of the proposed project.

The three-story townhome-style condominiums with abstract traditional architecture (see Figure 5) would be developed in 15 buildings ranging from triplexes to eight-plexes, separated by landscaped paseos and common open space. Five floor plans would be offered. The smallest, encompassing 1,317 square feet, would provide three bedrooms and three bathrooms, while the largest would provide four bedrooms, and three and a half bathrooms, with a total living area of 1,944 square feet. Plan 2 would have three bedrooms, four bathrooms, and an optional den, home office, or fourth bedroom, with a living area of 1,633 square feet. The other floor plans would be variations on the three-bedroom units.

Each unit would have an enclosed two-car garage on the ground floor, configured either as tandem parking or side-by-side parking, depending on the floor plan. Access to the garages would be via a common drive aisle or alleyway, as shown on the site plan. The 15 blocks of townhomes would include one three-plex, two five-plexes, three six-plexes, two seven-plexes, and seven eight-plexes.

The abstract traditional architecture would be characterized by mansard roofs accentuated with gable accents created by alternating projecting second/third-floor bays defined by individual townhome units. These bays would provide spatial articulation that would be further emphasized by alternating colors and finishes, as shown on Figure 5. The projecting bays would be punctuated by gabled roofs, while short shed roofs would project over the second and third stories of the alternating townhomes, which would also have parapets creating a crenelated roofline.

The exterior cladding would include fiber cement siding with a scored stucco finish, with the projecting bays clad in vertical board-and-batten Hardie board siding constructed with durable fiber cement. Some of the units without projecting second/third-floor bays would have horizontal Hardie board siding on the second and third stories, while others would be all stucco except for horizontal Hardie board siding flanking one side of the bedroom window.




## Figure 1

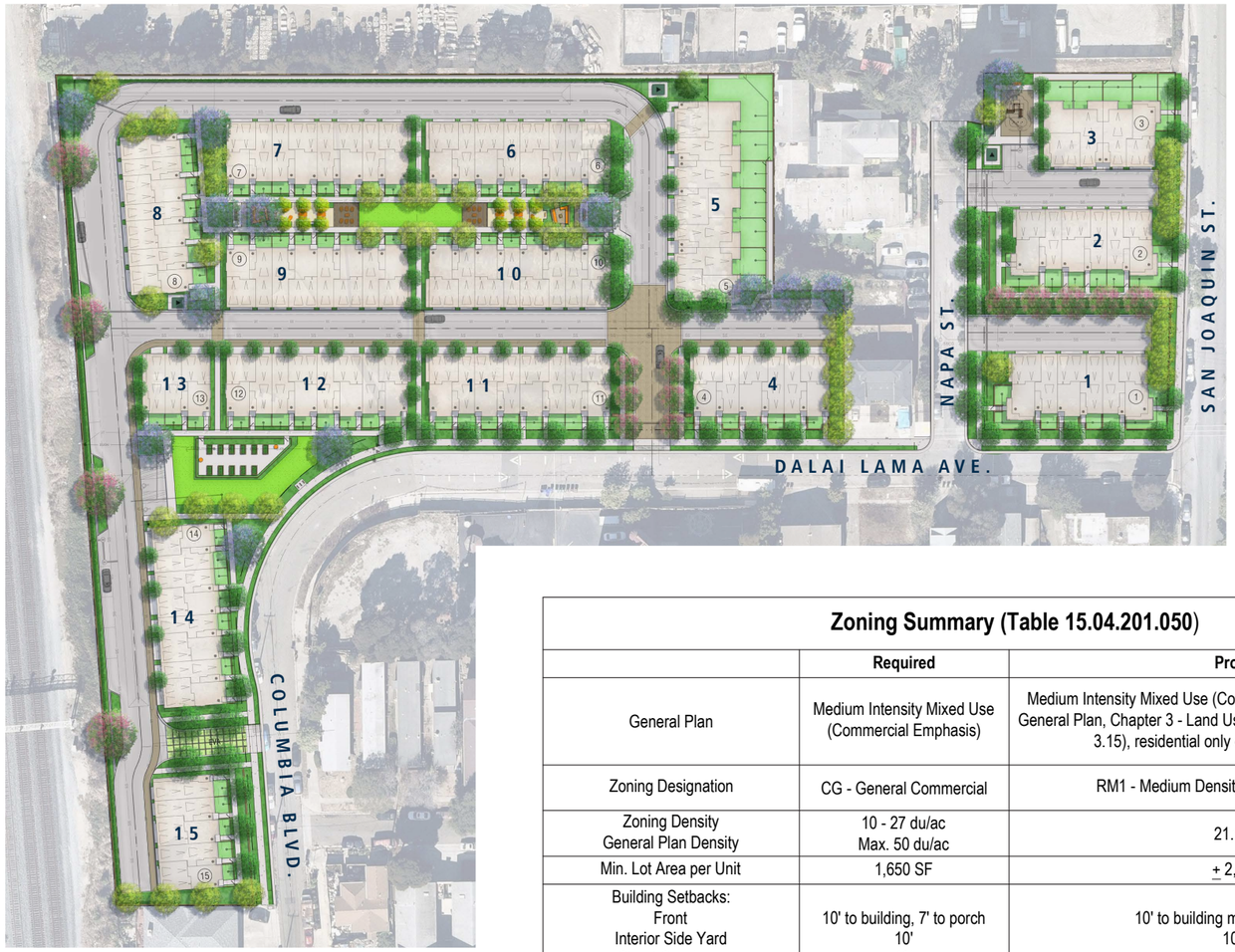
## Project Site Location

Source: Douglas Herring & Associates


**Figure 2**

## Aerial Overview of Project Vicinity

Source: Google Maps; Douglas Herring & Associates




## Zoning Summary (Table 15.04.201.050)

| | Required | Proposed |
|---|---|---|
| General Plan | Medium Intensity Mixed Use (Commercial Emphasis) | Medium Intensity Mixed Use (Commercial Emphasis) - per Richmond General Plan, Chapter 3 - Land Use and Urban Design, Table 3.2 (page 3.15), residential only developments are allowed |
| Zoning Designation | CG - General Commercial | RM1 - Medium Density Multi Family Residential |
| Zoning Density<br>General Plan Density | 10 - 27 du/ac<br>Max. 50 du/ac | 21.1 du/ac |
| Min. Lot Area per Unit | 1,650 SF | ± 2,063 SF |
| Building Setbacks:<br>Front<br>Interior Side Yard<br>Street Side Yard<br>Rear Yard | 10' to building, 7' to porch<br>10'<br>10'<br>20' | 10' to building min., 7' to porch min.<br>10' min.<br>10' min.<br>20' min. |
| Min. Building Separation | 6' | 10' |
| Max. Building Height | 35' | 35' |
| Max. Projection above Height Limit - Parapets (Table 15.04.601.050) | 4' | 4' |
| Max. Lot Coverage | 65% | 35.9% |
| Inclusionary Housing | | Per Ordinance No. 24-20 N.S adopted on 11/10/20, at least 10 percent of the new total housing units will be made available to moderate-income households at an affordable sales price. This will be made effective through a signed affordable agreement with the city. |

## Project Summary

**Total Site Area:** ± 4.74 Acres (± 206,322 SF)

**Total Units:** 100 Homes
- (46) Plan 1: ± 1,317 SF, 3 Bedroom, 3 Bath, Opt. Flex in Garage
- (45) Plan 2: ± 1,633 SF, 3 Bedroom, 3 Bath, Flex, Opt. Office / Den / Bed 4
- (2) Plan 3: ± 1,614 SF, 3 Bedroom, 3 Bath, Opt. Flex in Garage
- (4) Plan 4: ± 1,677 SF, 3 Bedroom, 2.5 Bath, Opt. Flex in Garage
- (3) Plan 5: ± 1,944 SF, 3 Bedroom, 2.5 Bath, Flex, Opt. Bed 4

**Density:** 21.1 Homes per Acre

**Parking:**

Required: 147 Spaces (1.47 spaces per home)
- Based on 15.04.607.040G 33% reduction for minimum required
- (100) 3 Bedroom x ~~2.0~~ 1.33 Spaces = ~~200~~ 134 Spaces
- (100) Guest x ~~0.2~~ .13 Spaces = ~~20~~ 13 Spaces

Provided: 220 Spaces (2.2 spaces per home)
- Garage: 200 Spaces*
- Parallel: 14 Spaces (8' x 22')
- Head In: 6 Spaces (9' x18')
- "EV": Future EV Charging Space

* 52 Spaces flex use - see Plan 1 floor plans

**Open Space:**

Required: 32,500 SF Total (325 SF per home)
- Common: 15,000 SF (150 SF per home; 15' min. dim.)
- Private: 7,500 SF (75 SF per home; 10'/6' min. dim.)
- Add'l OS: 10,000 SF (100 SF per home)

Provided: 44,794 SF Total (448 SF per home)
- Common: 25,051 SF (15' Min. Dimension)
- Private: 19,743 SF (10'/6' Min. Dimension)

**Lot Coverage:** 74,047.7 (35.9% of site)

**Figure 3**

**Proposed Site Plan**

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative


**Figure 2**

Parcel Map of Project Vicinity

Source: ??


**Figure 5**

Architectural Rendering of Representative Townhome Block

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative

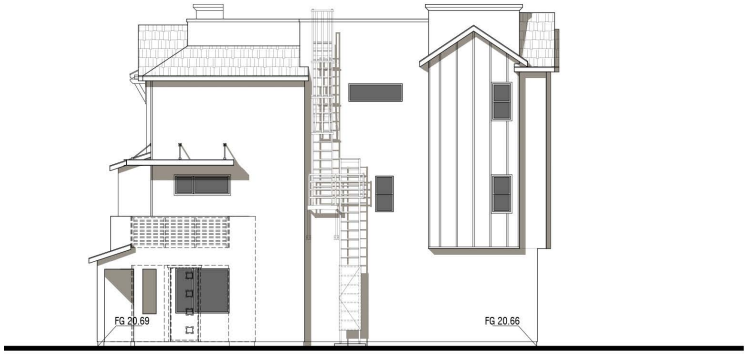
Every townhome unit would have a partially enclosed or open outdoor deck at the second floor, enclosed with metal railing and covered either by a projecting shed roof or a decorative metal awning. A shed roof or decorative wood trellis would project over the ground floor of alternating townhomes, providing accents to the façades. The ground floor of each unit would have a patio enclosed by a low stucco wall punctuated by an entry matching the second-floor deck enclosures. As shown in the elevations presented on Figures 6 through 9, most of the garages would be accessed from the rear of the townhomes via metal roll-up sectional doors, while the front patio decks would face either a sidewalk flanked by landscaped strips, common open space, or a landscaped paseo that would extend across the northwestern portion of the site, as shown on the site plan. Buildings 5 and 3, which would face the access street extending along the northern edge of the western parcel, would have garage entries on the front façades, flanked by the main entrance doors.

Color schemes have been selected to be reflective of colors employed in the surrounding neighborhood, particularly the Tibetan Association of Northern California, located opposite the project site on the south side of Dalai Lama Avenue. Each block of townhomes would employ a single color scheme, and the color schemes would be alternated such that no two adjacent buildings would employ the same colors.

Heights of the townhome blocks would be 35 feet, with parapets adding up to 4 feet to the overall height. Downward-directed, wall-mounted lumieres would provide nighttime illumination of the open patios. Bollard fixtures would provide lighting of walkways.

The proposed landscape plan, shown on Figures 10 and 11, includes a broad palette of trees, shrubs, groundcovers, and vines. Some of the nearly 40 proposed tree species would include maple (*Acer spp.*) silk tree/mimosa (*Albizia julibrissin*), Marina strawberry tree (*Arbutus 'Marina'*), madrone (*Arbutus menziesii*), lemon bottle brush (*Callistemon citrinus*), Western redbud (*Cercis occidentalis*), pink flowering dogwood (*Cornus florida 'Rubra'*), red honey locust (*Gleditsia tricanthos 'Rubylace'*), Chinese flame tree (*Koelreuteria bipinnata*), crape myrtle (*Lagerstroemia indica*), bay laurel (*Laurus nobilis*), magnolia (*Magnolia spp.*), olive (*Olea ssp.*), pine (*Pinus spp.*), Chinese pistache (*Pistachia chinensis*), sycamore (*Platanus racemosa*), flowering plum (*Prunus blireiana*), oak (*Quercus spp.*), and elm (*Ulmus spp.*).

An equally large number of shrub, grasses, and groundcover species is proposed, including manzanita (*Arctostaphylos spp.*), boxwood (*Buxus microphylla*), Green Beauty Japanese boxwood (*Buxus japonica 'Green Beauty'*), blue sedge (*Carex glauca*), magenta rockrose (*Cistus 'Sunset'*), creek dogwood (*Cornus sericea*), bearberry cotoneaster (*Cotoneaster dammeri 'Lowfosf*), flax lily (*Dianella sp.*), Atlas fescue (*Festuca mairei*), Saphire blue oat grass (*Helidotrichon sempervirens 'Sapphire'*), daylily (*Hemerocallis sp.*), red yucca (*Hesperaloe parviflora*), toyon (*Heteromeles arbutifolia*), trailing lantana (*Lantana montevidensis*), lavender (*Lavandula ssp.*), creeping wildrye (*Leymus glaucus*), waxleaf privet (*Ligustrum japonicum 'T exanum'*), honeysuckle (*Lonicera ssp.*), deer grass (*Muhlenbergia ssp.*), purple needle grass




Right


Rear


Left


Building 13, color scheme 2 shown

Front

AVERAGE GRADE CALCULATION:
20.69+20.66+20.66+20.69=82.70
82.70/4=20.67 AVERAGE GRADE

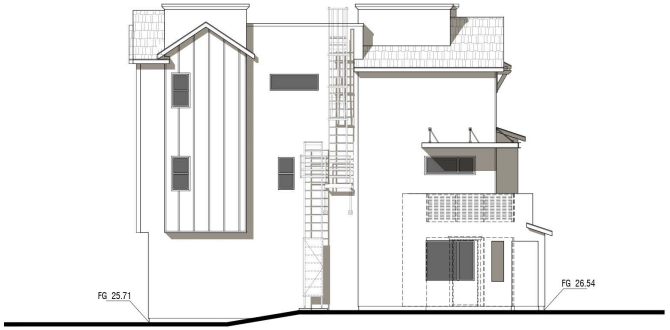
## Figure 6

## Three-Plex Exterior Elevations

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative


Right


Rear

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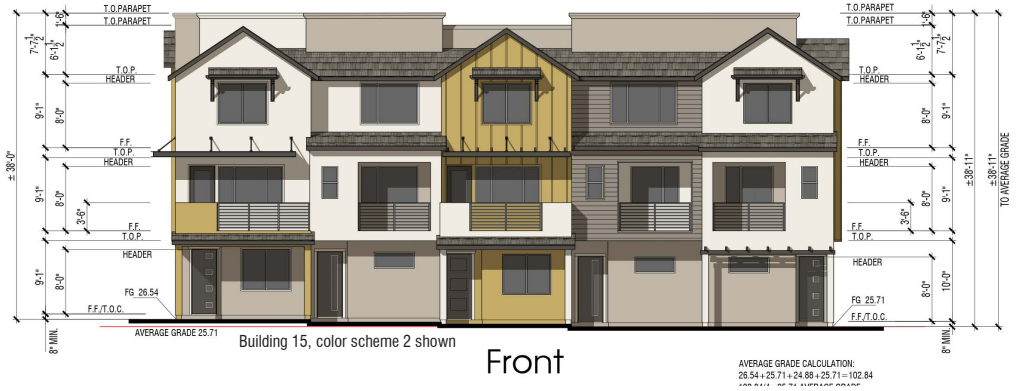


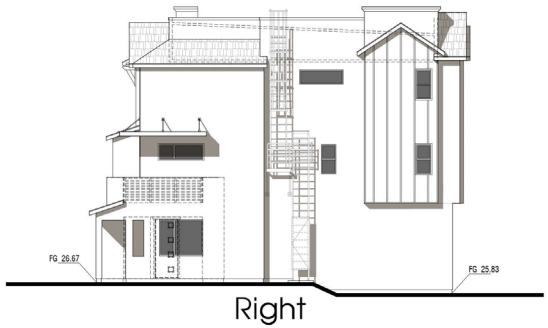

Building 15, color scheme 2 shown

Front

**Figure 7**

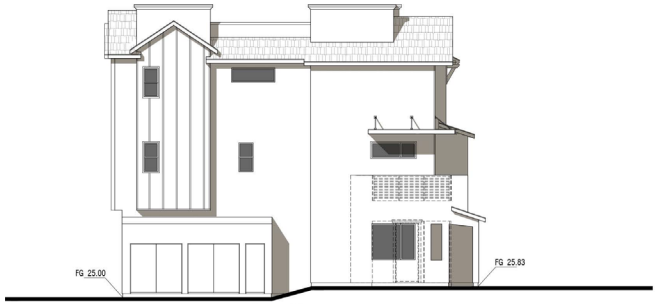
## Five-Plex Exterior Elevations

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative




Right


Rear




Left


Wrap Patio End Condition Occurs at Buildings 1 and 2

Building 4, color scheme 1 shown

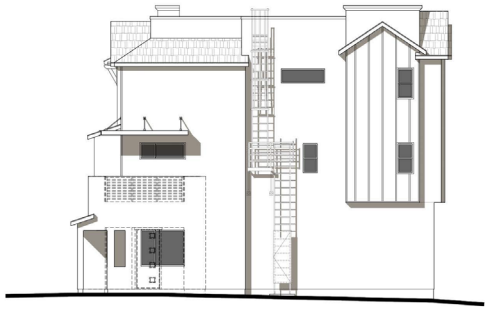
Front

Wrap Patio End Condition Occurs at Buildings 1 and 2

## Figure 8

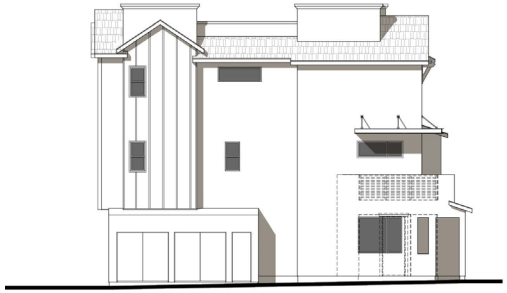
## Six-Plex Exterior Elevations

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative



Right


Rear



Left


Building 14, color scheme 1 shown

Front

**Figure 9**

## Eight-Plex Exterior Elevations

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative

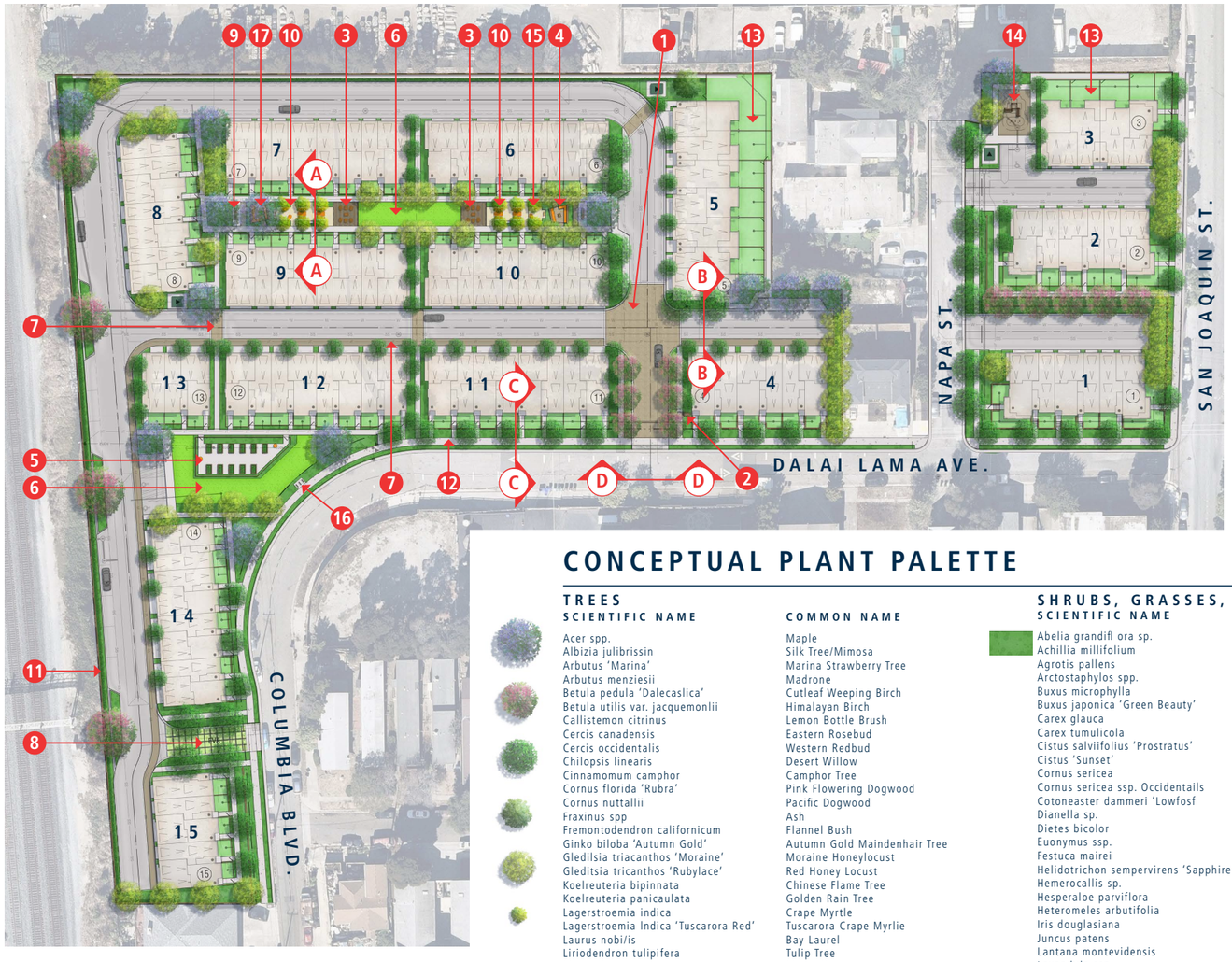
(*Nasella pulchura*), New Zealand flax (*Phormium sp.*), pittosporum (*Pittosporum sp.*), rose (*Rosa spp.*), rosemary (*Rosmarinus officinalis*), sage (*Salvia spp.*), and star jasmine (*Trachelospermum jasminoides*). A complete list of the proposed plants is provided on Figure 10.

To provide a buffer between the project and the existing residential development on Napa Street, the buildings have been significantly set back from the western parcel's eastern border adjacent to the residential development. Rear yards, landscaping, and dense trees would separate the buildings and the existing development. A dense row of trees would be planted along the eastern parcel's western border adjacent to Napa Street, as shown on Figure 10. A dense row of trees would also line the site's northern borders as well as the easternmost border adjacent to San Joaquin Street. An 8-foot-tall masonry wall with vine wells on both sides would extend along most of the northern and western borders of the western parcel, providing visual and sound screening from the outdoor commercial activity occurring on the property to the north.

The landscape plan includes an open turf area near the western edge of the property that would also include a community garden and bicycle amenities. Walkways would extend between and alongside blocks of townhomes. As depicted on the landscape plan, some of these walkways would feature accent paving, which would also be provided at the western site entrance on Dalai Lama Avenue, flanked by trees, and at paseo crossings of the primary east-west access drive between townhome blocks. A landscaped emergency vehicle access (EVA) paved with permeable pavers would extend from Columbia Boulevard to the site's western access drive, between the southernmost two blocks of townhomes. A pocket amenity for outdoor exercise would be provided on the northwest corner of the eastern parcel.

As shown on Figure 11, a spacious community paseo would extend across the northwestern quadrant of the site between two rows of townhomes. The paseo would be more than 20 feet wide and would consist of an open turf area flanked by paved walkways and private patios on both sides. Fire pits surrounded by seating areas would be located near each end of the paseo. Each end of the paseo would also provide picnic tables and seating, a group picnic area with a shade structure, and benches. A kids play area would be centrally located. Private patios facing the paseo would provide gates for direct access by the adjacent residents. The paseo would be lined with canopy trees and accent trees. Maintenance of common open space areas would be performed by a Homeowners Association (HOA).

The homes have been designed to be energy efficient, and no natural gas service would be provided; the homes would be all electric, with heating and cooling controlled by an energy-efficient smart NEST thermostat. Each home would be powered by roof-mounted solar panels that would provide approximately 2.5 kilowatt (kW) generation per home, sufficient to supply all or the majority of the homes' energy needs. Each garage would be pre-wired for EV charging. Low-flow toilet and water fixtures, energy-efficient appliances, dual-pane energy-efficient windows, high-efficiency architectural coatings, and high-efficiency LED lighting would further contribute to the energy efficiency of the homes. The homes have been designed to exceed CALGreen Building Code and Build it Green energy efficiency standards. Architectural coatings




## LEGEND

1. Accent Paving at Entry
2. Entry Monumentation
3. Group Picnic Area
4. Seating Area with Fire Pit
5. Community Garden
6. Open Turf Area
7. Accent Paving at Paseo Walk
8. EVA Access
9. Bench
10. Picnic Tables and Seating
11. Hedge
12. Sidewalk
13. Rear Yard
14. Exercise Station
15. Kids Play feature
16. Bike Racks and Bike Repair Station
17. Shaded Seating/Cooler Landscape features

## CONCEPTUAL PLANT PALETTE

### TREES

| SCIENTIFIC NAME | COMMON NAME |
|---|---|
| Acer spp. | Maple |
| Albizia julibrissin | Silk Tree/Mimosa |
| Arbutus 'Marina' | Marina Strawberry Tree |
| Arbutus menziesii | Madrone |
| Betula pedula 'Dalecaslica' | Cutleaf Weeping Birch |
| Betula utilis var. jacquemonlii | Himalayan Birch |
| Callistemon citrinus | Lemon Bottle Brush |
| Cercis canadensis | Eastern Rosebud |
| Cercis occidentalis | Western Redbud |
| Chilopsis linearis | Desert Willow |
| Cinnamomum camphor | Camphor Tree |
| Cornus florida 'Rubra' | Pink Flowering Dogwood |
| Cornus nuttallii | Pacific Dogwood |
| Fraxinus spp | Ash |
| Fremontodendron californicum | Flannel Bush |
| Ginko biloba 'Autumn Gold' | Autumn Gold Maindenhair Tree |
| Gleditsia triacanthos 'Moraine' | Moraine Honeylocust |
| Gleditsia tricanthos 'Rubylace' | Red Honey Locust |
| Koelreuteria bipinnata | Chinese Flame Tree |
| Koelreuteria panicaulata | Golden Rain Tree |
| Lagerstroemia indica | Crape Myrtle |
| Lagerstroemia Indica 'Tuscarora Red' | Tuscarora Crape Myrlie |
| Laurus nobi/is | Bay Laurel |
| Liriodendron tulipifera | Tulip Tree |
| Magnolia spp. | Magnolia spp. |
| Olea ssp. | Olive |
| Pinus spp. | Pine |
| Pistachia chinensis | Chinese Pistache |
| Platanus racemosa | Sycamore |
| Populus nigra 'Italica' | Lombardi Cottonwood |
| Prunus sp. | Cherry |
| Punica granatum | Pomegranate |
| Pyrus calleryana 'Bradford' | Callery Pear |
| Pyrus kawakamii | Evergreen Pear |
| Quercus spp. | Oak |
| Tristania conferta | Brisbane Box |
| Ulmus spp. | Elm |
| Zelkova serrata | Japanese Zelkova |

### SHRUBS, GRASSES, AND GROUNDCOVER

| SCIENTIFIC NAME | COMMON NAME |
|---|---|
| Abelia grandifl ora sp. | Sherwood Abelia |
| Achillia millifolium | Yarrow |
| Agrotis pallens | Diego Bent Grass |
| Arctostaphylos spp. | Manzanita |
| Buxus microphylla | Boxwood |
| Buxus japonica 'Green Beauty' | Green Beauty Japanese Boxwood |
| Carex glauca | Blue Sedge |
| Carex tumulicola | Foothill Sedge |
| Cistus salviifolius 'Prostratus' | Sageleaf Rockrose |
| Cistus 'Sunset' | Magenta Rockrose |
| Cornus sericea | Creek Dogwood |
| Cornus sericea ssp. Occidentails | Western Dogwood |
| Cotoneaster dammeri 'Lowfosf | Bearberry Cotoneaster |
| Dianella sp. | Flax Lily |
| Dietes bicolor | Fortnight Lily |
| Euonymus ssp. | Euonymus |
| Festuca mairei | Atlas Fescue |
| Helidotrichon sempervirens 'Sapphire' | Saphire Blue Oat Grass |
| Hemerocallis sp. | Daylily |
| Hesperaloe parviflora | Red Yucca |
| Heteromeles arbutifolia | Toyon |
| Iris douglasiana | Douglas' Iris |
| Juncus patens | California Gray Rush |
| Lantana montevidensis | Trailing Lantana |
| Lavandula ssp. | Lavender |
| Leymus condensatus 'Canyon Prince' | Canyon Prince Wild Rye |
| Leymus glaucus | Creeping Wildrye |
| Ligustrum japonicum 'T exanum' | Waxleaf Privet |
| Lomandra sp. | Dwarf Mat Rush |
| Lonicera ssp. | Honeysuckle |
| Muhlenbergia ssp. | Deer Grass |
| Myoporum p. 'Putah Creek' | Creeping Myoporum |
| Nasella pulchura | Purple Needle Grass |
| Olea europaea 'Little Ollie' | Little Ollie Dwarf Olive |
| Phormium sp. | New Zealand Flax |
| Pittosporum sp. | Pittosporum |
| Podocarpus elongatus 'Icee Blue' | Icee Blue Yellow-wood |
| Prunus caroliniana 'Bright n Tighf | Bright N Tight Carolina Laurel |

### SHRUBS, GRASSES, AND GROUNDCOVER

| SCIENTIFIC NAME | COMMON NAME |
|---|---|
| Rhaphiolepis sp. | Indian Hawthorn |
| Rosa spp. | Rose |
| Rosmarinus offi cinalis | Rosemary |
| Salvia spp. | Sage |
| Trachelospermum jasminoides | Star Jasmine |
| Westringia sp. | Coast Rosemary |
| Turf Grass | |

### VINE AND ESPALIER

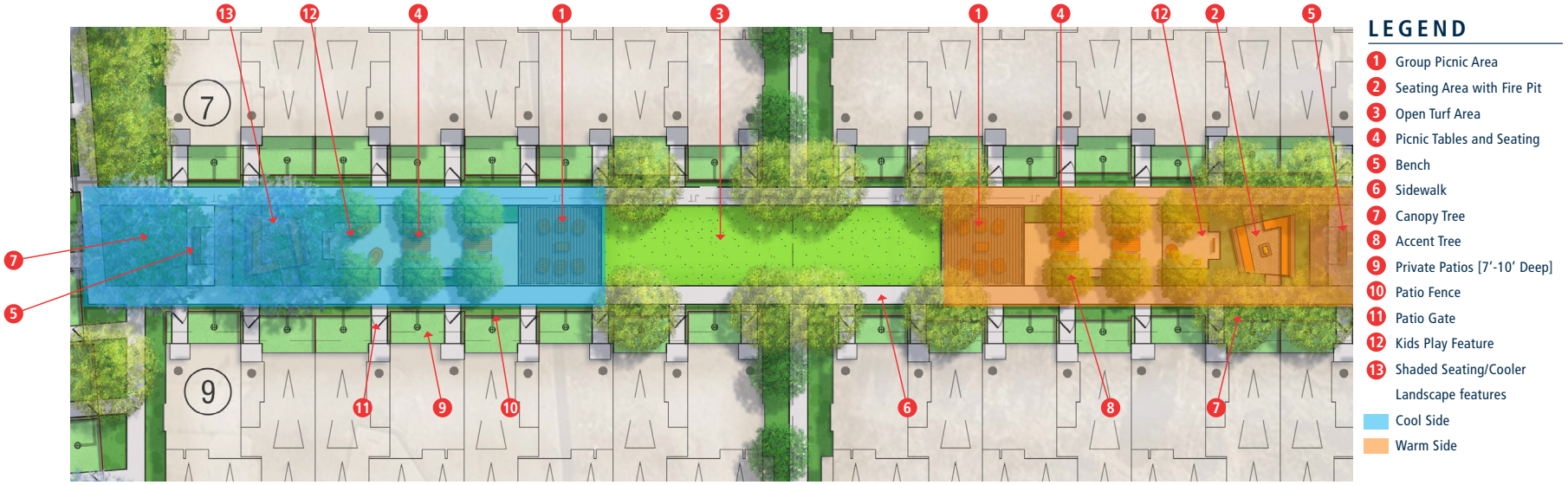
| SCIENTIFIC NAME | COMMON NAME |
|---|---|
| Ficus pumila | Creeping fig |
| Jasminum po/yanthum | Pink Jasmine |
| Trachelospermum jasminoides | Star Jasmine |

0 20' 40' 80'

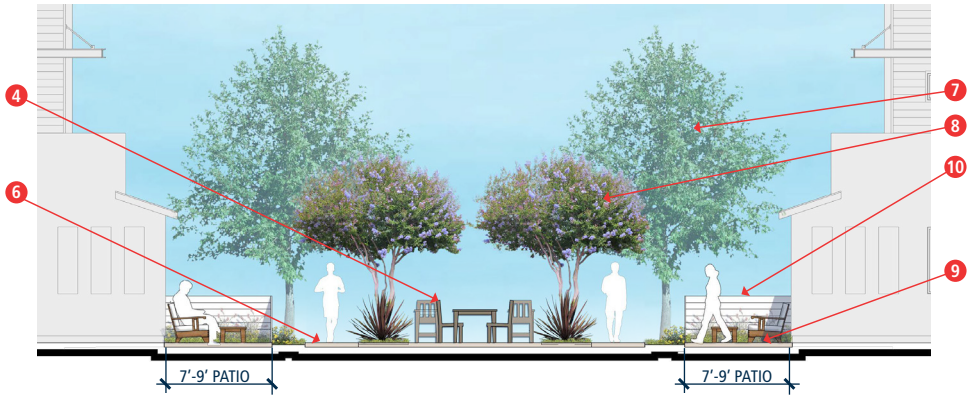
**Figure 10**

**Conceptual Landscape Plan**

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative




SOCIAL SPACE ENLARGEMENT




PASEO SECTION A-A

**Figure 11**

## Landscaped Paseo Plan

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative

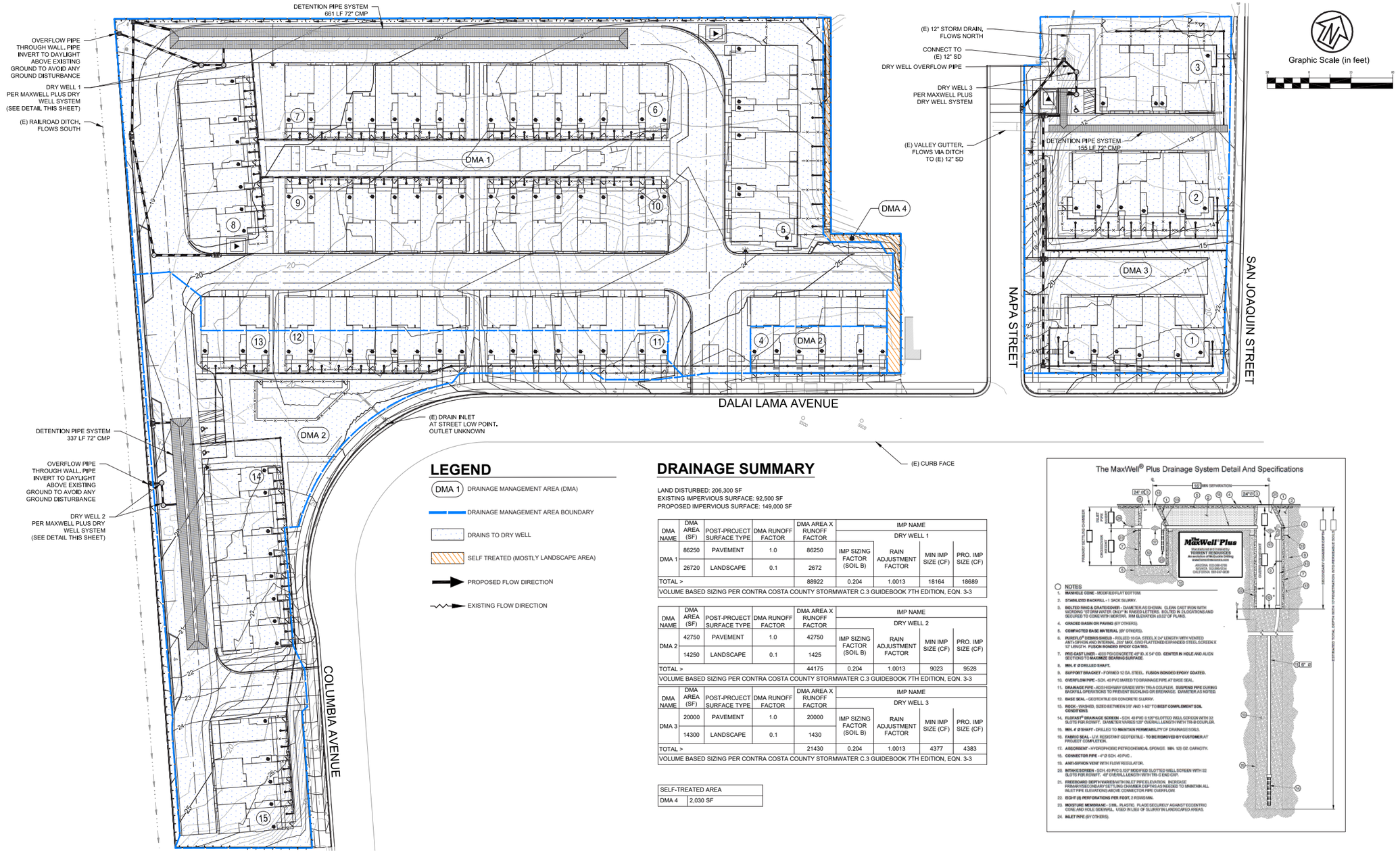
and adhesives would have low to zero volatile organic compound (VOC) content.

The site plan shows a total of 20 guest surface parking spaces interspersed around the site. Three perpendicular off-street spaces, including two handicap-accessible spaces and one electric vehicle (EV) charging station, would be located on the western side of the site between Buildings 13 and 14. Eleven parallel on-street spaces would extend along the access street extending along the site's western border. Three additional perpendicular off-street spaces, including one handicap-accessible space, would be located on the eastern parcel. Two more parallel spaces would line the drive aisle just west of Building 5 and one more parallel space would be adjacent to the community paseo.

The conceptual stormwater control plan is shown on Figure 12. Intended to comply with the regional requirements for on-site treatment of stormwater, discussed in Section X, the plan proposes to collect storm runoff from the project's impervious surfaces and treat it in two underground mechanical treatment vaults. One vault would be located in the northwest corner of the eastern parcel and the other would be located in the northwest corner of the western parcel. Each vault would be equipped with rechargeable, media-filled cartridges that absorb and retain pollutants entrained in stormwater runoff, including total suspended solids, hydrocarbons, nutrients, metals, and other common pollutants. Accumulated sediments would need to be periodically removed from upstream trapping devices, and the cartridges must be replaced periodically. The treatment vaults have been designed and sized to accommodate runoff from a total of approximately 203,500 square feet of new and replacement impervious surfaces, including pavements and townhome rooftops.

Following on-site treatment in the underground vaults, stormwater would be discharged into existing drainage facilities. Treated stormwater from the western parcel would be discharged to a surface drainage ditch the runs alongside the adjacent railroad line, which ultimately discharges to San Francisco Bay. Treated stormwater from the eastern parcel would connect to an existing 12-inch-diameter storm drain located under the northern end of the parcel that flows to the north and also eventually discharges to San Francisco Bay. A 960-square-foot linear bio-treatment swale extending along the northern boundary of the western parcel, adjacent to the masonry wall, would provide additional onsite treatment of the site's stormwater runoff.

Project construction is tentatively planned to commence in January 2022 and require approximately 27 months to complete. Site clearing and grading is expected to last for 30 days. Streets and utilities would be installed next and would take approximately 150 days (five months) to complete, after which construction of the homes would commence, requiring 21 months to complete, including architectural coatings and interior finishing. All construction staging of equipment and materials would occur on site. Construction worker parking is also anticipated to occur on site. Buildings located along the project frontages would be completed first to provide screening of equipment and construction activity during construction of the rest of the project. Installation of landscaping would be done in stages as construction of individual buildings and project areas is completed.




## LEGEND

- DMA 1 — DRAINAGE MANAGEMENT AREA (DMA)
- DRAINAGE MANAGEMENT AREA BOUNDARY
- DRAINS TO DRY WELL
- SELF TREATED (MOSTLY LANDSCAPE AREA)
- PROPOSED FLOW DIRECTION
- EXISTING FLOW DIRECTION

## DRAINAGE SUMMARY

LAND DISTURBED: 206,300 SF
EXISTING IMPERVIOUS SURFACE: 92,500 SF
PROPOSED IMPERVIOUS SURFACE: 149,000 SF

| DMA NAME | DMA AREA (SF) | POST-PROJECT SURFACE TYPE | DMA RUNOFF FACTOR | DMA AREA X RUNOFF FACTOR | IMP NAME: DRY WELL 1 — IMP SIZING FACTOR (SOIL B) | RAIN ADJUSTMENT FACTOR | MIN IMP SIZE (CF) | PRO. IMP SIZE (CF) |
|---|---|---|---|---|---|---|---|---|
| DMA 1 | 86250 | PAVEMENT | 1.0 | 86250 | | | | |
| | 26720 | LANDSCAPE | 0.1 | 2672 | | | | |
| TOTAL > | | | | 88922 | 0.204 | 1.0013 | 18164 | 18689 |
| VOLUME BASED SIZING PER CONTRA COSTA COUNTY STORMWATER C.3 GUIDEBOOK 7TH EDITION, EQN. 3-3 | | | | | | | | |

| DMA NAME | DMA AREA (SF) | POST-PROJECT SURFACE TYPE | DMA RUNOFF FACTOR | DMA AREA X RUNOFF FACTOR | IMP NAME: DRY WELL 2 — IMP SIZING FACTOR (SOIL B) | RAIN ADJUSTMENT FACTOR | MIN IMP SIZE (CF) | PRO. IMP SIZE (CF) |
|---|---|---|---|---|---|---|---|---|
| DMA 2 | 42750 | PAVEMENT | 1.0 | 42750 | | | | |
| | 14250 | LANDSCAPE | 0.1 | 1425 | | | | |
| TOTAL > | | | | 44175 | 0.204 | 1.0013 | 9023 | 9528 |
| VOLUME BASED SIZING PER CONTRA COSTA COUNTY STORMWATER C.3 GUIDEBOOK 7TH EDITION, EQN. 3-3 | | | | | | | | |

| DMA NAME | DMA AREA (SF) | POST-PROJECT SURFACE TYPE | DMA RUNOFF FACTOR | DMA AREA X RUNOFF FACTOR | IMP NAME: DRY WELL 3 — IMP SIZING FACTOR (SOIL B) | RAIN ADJUSTMENT FACTOR | MIN IMP SIZE (CF) | PRO. IMP SIZE (CF) |
|---|---|---|---|---|---|---|---|---|
| DMA 3 | 20000 | PAVEMENT | 1.0 | 20000 | | | | |
| | 14300 | LANDSCAPE | 0.1 | 1430 | | | | |
| TOTAL > | | | | 21430 | 0.204 | 1.0013 | 4377 | 4383 |
| VOLUME BASED SIZING PER CONTRA COSTA COUNTY STORMWATER C.3 GUIDEBOOK 7TH EDITION, EQN. 3-3 | | | | | | | | |

| SELF-TREATED AREA | |
|---|---|
| DMA 4 | 2,030 SF |




**Figure 12**

Conceptual Stormwater Control Plan

Source: City Ventures; WHA; CSW/Stuber-Stroeh Engineering Group, Inc.; C2 Collaborative

Site preparation would include undergrounding of an existing power line that crosses the western parcel from Dalai Lama Avenue. Approximately 1,400 cubic yards of rubble would be off-hauled from the eastern parcel to an off-site recycling facility.

An estimated 15 construction workers are expected to be working at the site on a typical work day during the clearing and grubbing of the site, approximately 20 workers will be on site during the grading and infrastructure buildout phase, and approximately 30 workers will be on site during the vertical construction of the townhomes.

### *Planning Approvals*

Vesting Tentative Tract Map: The project would require approval of a Vesting Tentative Map (VTM) by the City Council pursuant to Article 15.04.704 of the Richmond Municipal Code. The VTM would merge the western parcels, then subdivide the entire site as a two-lot subdivision for 100 townhouse-style condominiums.

Rezoning: The applicant is requesting rezoning of the project property from CG – General Commercial to an RM1 – Medium Density Multi-Family Residential district pursuant to Article 15.04.814 of the Richmond Municipal Code.

Design Review Permit: The project would require Design Review approval by the Design Review Board pursuant to Article 15.04.805 of the Richmond Municipal Code. In order to obtain this approval, the project will need to demonstrate consistency with the General Plan, applicable design guidelines, and the design review criteria set forth in Section 15.04.805.040 of the Municipal Code.

Final Subdivision Map: Within 24 months of the approval of a Vesting Tentative Tract Map, the project would require filing of a Final Subdivision Map, to be approved by the Planning Commission, pursuant to Article 15.04.705 of the Richmond Municipal Code.

## 9. Project Setting

Existing Conditions

The approximately 4.74-acre (±206,322 square feet) project site is comprised of three discontiguous parcels, two contiguous western parcels of 1.88 acres (81,762 square feet) and 2.07 acres (90,169 square feet), respectively, and a separate eastern parcel of 0.79 acres (34,325 square feet). The site is located in the southern end of the City of Richmond, in the Southwest Annex neighborhood. The property lies at the transition from single- and multi-family residential housing to the south and commercial/light industrial development to the north. Regional and local access to the site are identified in the summary information presented on page 1.

The project site sits at the western edge of a broad, flat plain extending along the eastern shore of San Francisco Bay. There is an average grade change of 11 percent across the site, with minor variations in terrain, and an undulating surface on the eastern parcel due to buried fill. Cyclone security fencing interlaced with wood slats encloses each of the three project parcels.

The western parcel, shown on Figure 13, was previously developed with an array of satellite dishes used by various communications companies, as well as above-ground storage tanks (ASTs) to support back-up generators and lead-acid batteries. Although all equipment and facilities have been removed, concrete slabs, foundations, and a drainage trench remain on the site, and a low-hanging electrical power line crosses the site in an east-west direction, with four support poles located on the site. A second power line extends along the western edge of the site, with the support poles also located on the site. As shown on Figure 13-a, there are also three pad-mounted blue cement pillars, approximately 5 feet tall. Much of the remaining surface of the western parcel consists of deteriorated asphalt and concrete pavements, intersperse with ruderal grasses and weeds and dotted with an occasional shrub. Observed shrub species included sweet fennel (*Foeniculum vulgare*), red valerian (*Centranthus ruber*), and radish (*Raphanus sativus*).

The northern edge of the western parcel is lined by a number of large, mature Australian blackwood trees (*Acacia melanoxylon*), with at least five of the trees located on the project site and several others on the adjacent property, with some branches hanging over the project site.

As shown on Figure 13-b, the southern end of the western parcel slopes downward from east to west, and this section of the site is covered in ruderal grasses and weeds. A number of Australian blackwood trees line the fence adjacent to Columbia Avenue and a lemon-scented gum tree (*Corymbia citriodora*) hangs over the site from Columbia Avenue. Elevations in this section of the site range from 33 feet above mean sea level (msl) in the southeast corner to 17 feet msl along the western edge. Elevations on the northern portion of the western parcel range from 25 feet msl in the southeastern corner to about 16 feet msl in the northwestern corner.

The western portion of the central parcel was inaccessible during the reconnaissance of the project site. However, as shown on Figure 2, this weed-covered vacant site is surrounded by a dense row of trees and shows no evidence of prior development. Based on historic aerial photographs of the project vicinity dating to 1939 and historic topographic maps dating to 1895, this portion of the site does not appear to have ever been developed, though there were signs that materials and equipment were stored on the site in the 1960s and 1970s. The eastern portion of the central parcel is currently used for storage of stone and wood pallets by the adjacent landscape supply company to the north, as shown on Figure 14-a. Aging asphalt pavement covers part of this area, which has mature trees growing along the Dalai Lama Avenue frontage.

a) Viewing northwest across western parcel of the project site.

b) Viewing south across southern portion of western parcel of the project site.

**Figure 13**

## Existing Site Conditions

Source: Douglas Herring & Associates

a) Viewing northwest across central parcel of the project site.

b) Viewing south across eastern parcel of the project site.

## Figure 14

## Existing Site Conditions

Source: Douglas Herring & Associates

Elevations on the central parcel range from about 12 feet msl in the northeast corner to 26 feet msl in the southeast corner to about 18 feet msl in the northwest corner.

This central parcel is abutted on the east by a small two-story eight-unit apartment complex located at the north end of Napa Street, on the west side of the street. Just to the south of the apartments, on the northeast corner of Napa Street and Dalai Lama Avenue, is a two-story residential duplex.

The separate eastern parcel is vacant, surrounded by trees, and covered with grasses and weeds, as shown on Figure 14-b. According to the geotechnical report summarized in Section VII, this parcel has been used for stockpiling of soil, concrete rubble, brick fragments, and other construction/demolition debris, which accounts for the grass-covered mounds depicted in the photo. The historic aerial photos and topographic maps referenced above show no evidence of historic development on this parcel. The parcel is mounded in the center, with a maximum elevation of 25 feet msl on the southern end and a variable elevation of around 20 feet msl across the central portion of the parcel, with sloped banks along the east and west sides dropping down to about 12 feet msl on the east and 11 feet msl on the northwest. The trees surrounding the parcel consist primarily of Australian blackwoods, and also a number of lemon-scented gum trees.

Easements owned by the Stege Sanitary District previously crossed the western portion of the project site, but were quit earlier this year. The quit claim was recorded with the Contra Costa County Clerk-Recorder on April 28, 2021.

Neighboring Land Uses

The small apartment complex (shown on Figure 15-a) and duplex on Napa Street referenced above separate the eastern and western project parcels, and these uses would be retained. All of the large property to the north of the project site is occupied by two landscape supply businesses, the Urban Farmer (shown on Figure 15-b) and American Soil and Stone. A large warehouse is located immediately to the north of these businesses. While San Joaquin Street runs adjacent to the eastern edge of the eastern project parcel, Interstate 80 (I-80) runs in a north-south direction immediately to the east of this street, and is the primary source of noise on the eastern project parcel. Another freeway, I-580, runs in a north-south direction about 150 feet west of the western project parcel, another primary noise source. In addition, railroad tracks owned by Union Pacific Railroad (UPRR) extend alongside the western border of the site, and trains passing by provide another notable noise source, though intermittent and of short duration. A salt marsh occupies the area immediately west of I-580. West of the marsh is Point Isabel, on the eastern edge of San Francisco Bay. This peninsula is developed with a large U.S. Mail processing center, a Costco, a small block of commercial businesses, and a wet-weather stormwater treatment facility operated by the East Bay Municipal Utilities District (EBMUD). Point Isabel Regional Shoreline, which includes a dog park, occupies the northern and northwestern sides of the Point Isabel peninsula.


a) Rental apartments located at northern end of Napa Street, in center of project site.


b) Landscape supply business located immediately north of the project site.

## Figure 15

## Neighboring Land Uses

Source: Douglas Herring & Associates

Although the area immediately to the south of the project site is primarily developed with mixed residential uses, including a couple of single-family homes, the Tibetan Association of Northern California, shown on Figure 16-a, occupies much of the south side of Dalai Lama Avenue opposite the project site. A residential triplex, shown on Figure 16-b, abuts the southern edge of the western project parcel. A small four-unit apartment building is at the east end of Dalai Lama Avenue, and two other small apartment buildings occupy the east end of this block. Panama Avenue, located one block south of Dalai Lama Avenue, is primarily developed with small, two-story apartment buildings that appear to three to four units each. There are also single-family homes on this block and along Columbia Boulevard south of the project site. The area east of I-80 in the vicinity of the project site is built out with single-family homes and there is an adult education school located about 800 feet northeast of the project site.


a) Tibetan Association of Northern California, located immediately south of the project site.


b) Triplex located immediately adjacent to southwestern end of the project site.

**Figure 16**

## Neighboring Land Uses

Source: Douglas Herring & Associates

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

| | | |
|---|---|---|
| [ ] Aesthetics | [ ] Agricultural Resources | [X] Air Quality |
| [X] Biological Resources | [X] Cultural Resources | [ ] Energy |
| [X] Geology/Soils | [ ] GHG Emissions | [X] Hazards & Haz. Materials |
| [ ] Hydrology/Water Quality | [ ] Land Use/Planning | [ ] Mineral Resources |
| [X] Noise | [ ] Population/Housing | [ ] Public Services |
| [ ] Recreation | [ ] Transportation/Traffic | [X] Tribal Cultural Resources |
| [ ] Utilities/Service Systems | [ ] Wildfire | |
| [X] Mandatory Findings of Significance | | |

## DETERMINATION:

On the basis of the initial evaluation:

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

| | |
|---|---|
| Signature | Date |
| Printed name | For |

## EVALUATION OF ENVIRONMENTAL IMPACTS:

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *a) Have a substantial adverse effect on a scenic vista?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There are no scenic vistas available from the project site, and there are no scenic vistas across the site as viewed from offsite locations. Much of the site frontage along Dalai Lama Avenue is obscured by trees and opaque fencing. Streets and sidewalks surrounding the project site provide the only publicly-accessible vantage point for views in the project vicinity, and these views consist entirely of urban streetscapes. For example, viewing west along the site frontage from Dalai Lama Avenue, the view encompasses the street, cars parked along the street, and residential buildings lining the street. Dense trees line the north side of the street, obscuring the project site. Viewing north from Columbia Boulevard, the west side of the street is lined with 6-foot-high cyclone fencing interlaced with wood slats to produce an opaque fence, while homes line the east side of the street. Power lines and trees are visible over the top of the fence. An array of satellite dishes was previously visible at the north end of the street where it curves east and becomes Dalai Lama Avenue, but this equipment has been removed.

The only other publicly-accessible vantage point providing views of the project site is from San Joaquin Street. Views consist of fencing and trees growing along the site frontage and a large sound wall on the east side of the street providing a sound buffer from traffic-generated noise along the adjacent I-80 freeway.

None of these views encompass a scenic vista. Although aesthetic considerations are inherently subjective, Miriam-Webster Dictionary defines *vista* as a distant view through or along an avenue or opening. By this definition, the views available in the vicinity are not vistas, scenic or otherwise. Therefore, the proposed project would have ***no impact*** on a scenic vista.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?* | ☐ | ☐ | ☐ | ☒ |

Explanation: California's Scenic Highway Program was created by the Legislature in 1963, with the objective of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. They regulate land use and the density of adjacent development, restrict grading, govern the design and appearance of proposed development, restrict outdoor advertising, impose limitations on the use of landscaping, and guide site planning.

State scenic highways are so designated by the California Department of Transportation (Caltrans), following review of a request from a local city or county through which the roadway passes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

Caltrans has not designated any scenic highways in the vicinity of the project site.[1] Therefore, the project would have ***no impact*** on scenic resources within a State scenic highway.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) *Substantially degrade the existing visual character or quality of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urban area, would the project conflict with applicable zoning and other regulations governing scenic quality?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The existing visual character of the project site is fairly low, as shown on Figures 13 and 14. The larger western parcel consists of concrete foundation slabs and deteriorated asphalt and concrete pavements, interspersed with ruderal grasses and weeds and dotted with an occasional shrub. The vacant western portion of the central parcel is covered with weeds and ruderal grasses, with trees growing along the eastern, northern, and southern perimeters. The eastern portion of the central parcel is currently used for storage of landscaping boulders; the surface is part deteriorated asphalt pavement, part exposed earth, and part ruderal grasses and weeds. Stockpiles of construction rubble are scattered across the eastern parcel but, as shown on Figure 14-b, grasses have grown over the surface; they were a lush green at the time of the site reconnaissance in late March 2021, but they will be dried and brown by the early summer and remain this way for at least six months.

While the interiors of the project parcels have very little aesthetic appeal, if any, they are obscured from view from public vantage points due to the surrounding trees and opaque fences. Implementation of the proposed project would transform the site from the conditions described above to an attractively-designed residential community with substantial landscaping and public open space. The project would open the site up to view from Dalai Lama Avenue, removing the fences and trees that now line the north side of the street. When viewing west along the length of the street, the current view of a locked cyclone gate flanked by shrubs and trees, with sections of exposed cyclone fencing, would be replaced by an open turf lawn and a community garden, with trees and other landscaping growing along the edges and a planted green strip bordering both Dalai Lama Avenue and Columbia Boulevard.

Blocks of townhomes would face Dalai Lama Avenue and Columbia Boulevard. Each dwelling unit would present the front entry door and fenced private garden to the street frontage. A representative example is presented on Figure 5. The garage doors to all units would be obscured from public view. A dense row of trees planted along the eastern edge of the central project parcel would provide visual screening of the site as viewed from the apartments on Napa Street and the duplex located

[1] California Department of Transportation, Officially Designated State Scenic Highways, accessed April 6, 2021 at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

immediately to the south of the apartments. Trees planted along the western edge of the eastern parcel would obscure much of this site from view from the existing residential uses along Napa Street, with the exception of the alleys providing access to the townhome garages. As shown on Figure 10, a dense row of trees would line the north side of the southern alley, which would help screen the garage doors in Building 1 from view by the residents in Building 2. Trees and fencing would screen views of the site from San Joaquin Street.

The main entrance to the western portion of the site would be lined with trees and other landscaping and would feature accent pavements, presenting an attractive site entry to Dalai Lama Avenue. There would also be an EVA across the southern end of the site, providing emergency vehicle access between Columbia Boulevard and the access drive extending along the west edge of the project site. The EVA would be flanked by sidewalks, trees, and other landscaping, and the surface of the EVA would be surfaced with permeable pavers or drivable turf blocks that can support heavy emergency vehicles.

With a total proposed landscaped area of 206,322 square feet, 23 percent of the project site would be devoted to landscaping and open space, and the property would be well maintained by the HOA. Only the front façades of the townhomes would be visible from off-site public vantage points. The project would be attractively designed and finished, and it would be both visually and functionally consistent with the existing residential development to the south of the site. It can be argued that implementation of the proposed project would substantially improve the current aesthetics of the site. While this is subjective and some viewers might disagree, the preceding discussion clearly demonstrates that the project would not cause a substantially degradation of the existing visual character or quality of the site and its surroundings, which is the relevant threshold of significance established in the *CEQA Guidelines*. Additionally, the project would not conflict with zoning or other regulations governing scenic quality. Accordingly, the project would have a ***less-than-significant visual impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The proposed homes would have interior lighting and exterior security lighting typical of all residential development. Entryways to the townhomes would have recessed lighting that would not have spillover light beyond the property line. Wall-mounted fixtures on the front of the homes next to the fenced private front yards would be downward directed and shielded to minimize spillover light. Low-intensity, downward-directed bollard lighting would provide illumination along paseos and sidewalks. The proposed lighting would not constitute a new source of substantial light or glare, and the lighting would not adversely affect views in the area. The homes would not be finished in reflective surfaces other than windows, which do not comprise a substantial source of glare in residential developments. The project would have a ***less-than-significant impact*** related to glare or nighttime lighting.

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) *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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The project site and all of the neighboring lands to the north, east, and south are designated "Urban and Built-Up Land" on the map of important farmland in Contra Costa County prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) by the Department of Conservation (DOC), a department of the California Resources Agency.[2] Urban and Built-Up Land is defined as land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. Typical development may include residential, commercial, industrial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, and water control structures. The marshland located west of the project site on the west side of Interstate 80 is designated "Other Land" on the FMMP map. Other Land is land that is not included in any other mapping category. Common examples include low-density rural development, brush, timber, wetland, riparian areas not suitable for livestock grazing, confined livestock or poultry, aquaculture, strip mines, borrow pits, and water bodies smaller than 40 acres. Although the DOC updates the maps every two years; the most recent map was prepared in 2016 and published in 2018.

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

[2] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, "Contra Costa County Important Farmland 2016" (map), August 2018.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The project site is not zoned for agricultural use; it is zoned for commercial use and is not under a Williamson Act contract.[3]

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?* | ☐ | ☐ | ☐ | ☒ |

Explanation: Public Resources Code (PRC) Section 12220(g) defines forest land as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. PRC Section 4526 defines "Timberland" as land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees, with commercial species to be determined by the State Board of Forestry and Fire Protection on a district basis. Government Code Section 51104(g) defines "timberland production zone" or "TPZ" as an area that has been zoned as timberland pursuant to Government Code Sections 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. Neither the project site nor any of the surrounding lands are zoned as forest land, nor are they devoted to timber production.[4] The proposed project would therefore have no impact on forest or timber land.

[3] City of Richmond, City of Richmond GIS Viewer: Zoning Information, accessed April 7, 2021 at: http://geoweb02.ci.richmond.ca.us/Html5Viewer/Index.html?configBase=http://geoweb02.ci.richmond.ca.us/Geocortex/Essentials/REST/sites/ZoningInfoINTERNET/viewers/html5/virtualdirectory/Resources/Config/Default.

[4] *Ibid*.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) *Result in the loss of forest land or conversion of forest land to a non-forest use?* | ☐ | ☐ | ☐ | ☒ |

Explanation: As noted in Section II-c, above, there is no forest land on the project site, and implementation of the proposed project would therefore have no potential to convert such lands to other uses.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: As discussed above, the project site does not contain farmland or forest land, and implementation of the proposed project would therefore have no potential to convert such lands to other uses.

**III. 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The Bay Area Air Quality Management District (BAAQMD) adopted the *2017 Clean Air Plan* was adopted in April 2017.[5] The 2017 Clean Air Plan/Regional Climate Protection Strategy (CAP/RCPS) provides a roadmap for BAAQMD's efforts over the next few years to reduce air pollution and protect public health and the global climate. The CAP/RCPS includes the Bay Area's first-ever comprehensive RCPS, which identifies potential rules, control measures, and strategies that BAAQMD can pursue to reduce GHG in the Bay Area. Measures of the 2017 CAP addressing the transportation sector are in direct support of *Plan Bay Area 2040*, which was prepared by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) and includes the

[5] Bay Area Air Quality Management District, *Final 2017 Clean Air Plan*, April 19, 2017. 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.

region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan. Highlights of the *2017 Clean Air Plan* control strategy include:

- **Limit Combustion:** Develop a region-wide strategy to improve fossil fuel combustion efficiency at industrial facilities, beginning with the three largest sources of industrial emissions: oil refineries, power plants, and cement plants.
- **Stop Methane Leaks:** Reduce methane emissions from landfills, and oil and natural gas production and distribution.
- **Reduce Exposure to Toxics:** Reduce emissions of toxic air contaminants by adopting more stringent limits and methods for evaluating toxic risks at existing and new facilities.
- **Put a Price on Driving:** Implement pricing measures to reduce travel demand.
- **Advance Electric Vehicles:** Accelerate the widespread adoption of electric vehicles.
- **Promote Clean Fuels:** Promote the use of clean fuels and low or zero carbon technologies in trucks and heavy-duty vehicles.
- **Accelerate Low-Carbon Buildings:** Expand the production of low-carbon, renewable energy by promoting on-site technologies such as rooftop solar and ground-source heat pumps.
- **Support More Energy Choices:** Support of community choice energy programs throughout the Bay Area.
- **Make Buildings More Efficient:** Promote energy efficiency in both new and existing buildings.
- **Make Space and Water Heating Cleaner:** Promote the switch from natural gas to electricity for space and water heating in Bay Area buildings.

When a public agency contemplates approving a project where an air quality plan consistency determination is required, BAAQMD recommends that the agency analyze the project with respect to the following questions: (1) Does the project support the primary goals of the *2017 Clean Air Plan*; (2) Does the project include applicable control measures from the *2017 Clean Air Plan*; and (3) Does the project disrupt or hinder implementation of any *2017 Clean Air Plan* control measures? If the first two questions are concluded in the affirmative and the third question concluded in the negative, the BAAQMD considers the project consistent with air quality plans prepared for the Bay Area.

Any project that would not support the *2017 Clean Air Plan* goals would not be considered consistent with the *2017 Clean Air Plan*. The recommended measure for determining project support of these goals is consistency with BAAQMD CEQA thresholds of significance. As presented in the subsequent impact discussions in this section, the proposed project would not exceed the BAAQMD significance thresholds; consequently, the proposed project would support the primary goals of the *2017 Clean Air Plan* and would not hinder implementation of any of the *2017 Clean Air Plan* control measures. Therefore, the proposed project with implementation of mitigation measures would have a ***less-than-significant impact with mitigation*** due to conflicting with or obstructing implementation of the applicable air quality plan.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| b) *Result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard?* | ☐ | ☒ | ☐ | ☐ |

Explanation: Information in this section is based on the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report* prepared by RCH Group.[6] The Air Quality Technical Report provides an overview of the existing air quality conditions at the proposed project site, the air quality regulatory framework, an analysis of potential air quality impacts (including assumptions and methodology) that would result from implementation of the proposed project, and identification of applicable mitigation measures. Other issues related to air emissions covered include the assessment of emissions related to air quality health impacts and odor impacts.

The air quality analysis is consistent with the methods described in the Bay Area Air Quality Management District (BAAQMD)'s *CEQA Air Quality Guidelines*.[7] Mitigation measures are presented to reduce impacts to less than significant, as applicable. The air quality analysis includes a review of criteria pollutant emissions such as carbon monoxide (CO)[8], nitrogen oxides ($NO_x$), sulfur dioxide ($SO_2$), volatile organic compounds (VOCs) as reactive organic gases (ROGs)[9], particulate matter less than 10 micrometers (coarse, or $PM_{10}$), and particulate matter less than 2.5 micrometers (fine, or $PM_{2.5}$).[10]

### *Construction Impacts*

Construction operations for any sizeable project have the potential to result in short-term but significant adverse air quality impacts. Intermittent (short-term construction emissions that occur from activities, such as site-grading, paving, and building construction) and long-term air quality impacts related to the operation of the proposed project were evaluated. The air quality analysis focuses on daily emissions from construction and operational (mobile, area, stationary, and fugitive sources) activities. The California Air Resources Board's (CARB) CalEEMod, Version 2016.3.2[11] was used to quantify construction-related and operational emissions. CalEEMod output worksheets are included in Appendix A. The emissions generated from these construction activities include:

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[6] RCH Group, Richmond Annex/Cherry Blossom Row Residential Project, Richmond, CA, Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report, April 14, 2021.

[7] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

[8] CO is a gaseous pollutant that is a product of incomplete combustion of organic material, and is mostly associated with internal combustion engines such as those in motor vehicles, and in wintertime, with wood–burning stoves and fireplaces.

[9] VOC means any compound of carbon, excluding CO, carbon dioxide ($CO_2$), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROGs are any reactive compounds of carbon, excluding methane, CO, $CO_2$ carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

[10] $PM_{10}$ and $PM_{2.5}$ consists of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. $PM_{10}$ and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

[11] California Air Resources Board, California Emissions Estimator Model User's Guide, November 9, 2017, Accessed March 23, 2021 at: http://www.caleemod.com/.

- Dust (including $PM_{10}$ and $PM_{2.5}$) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as material handling and travel on unpaved surfaces;
- Combustion exhaust emissions of criteria air pollutants (ROGs, $NO_x$, CO, $PM_{10}$, and $PM_{2.5}$) primarily from operation of heavy off-road construction equipment, haul trucks, (primarily diesel-operated), and construction worker automobile trips (primarily gasoline-operated); and
- VOCs as ROGs, primarily from "fugitive" sources such as architectural coatings and paving.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. High winds (greater than 10 miles per hour) occur infrequently in the area, less than two percent of the time. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and $PM_{10}$ concentrations may be adversely affected on a temporary and intermittent basis during construction. In addition, the fugitive dust generated by construction would include not only $PM_{10}$, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Erosion control measures and water programs are typically undertaken to minimize these fugitive dust and particulate emissions. A dust control efficiency of over 50 percent due to daily watering and other measures (e.g., limiting vehicle speed to 15 mph, management of stockpiles, screening process controls, etc.) was assumed in the calculation of construction emissions. Based on CalEEMod, one water application per day reduces fugitive dust by 34 percent, two water applications per day reduces fugitive dust by 55 percent, and three water applications per day reduces fugitive dust by 61 percent.

Construction activities are estimated to begin in January of 2022 with completion in November of 2024. Table AQ-1 provides the estimated construction schedule for each phase: site preparation, grading, building construction, paving, and architectural coating. Typically, construction activities would occur between 8 a.m. and 5 p.m. (nine hours per day), on Monday through Friday.[12]

[12] Per Richmond Municipal Code Section 15.04.605.060: General construction noise shall be limited to weekdays from 7 a.m. to 6 p.m. Pile driving and similar loud activities shall be limited to weekdays from 8 a.m. to 5 p.m. General construction noise on projects repairing, renovating, or adding to residential structures with one to five dwelling units shall be limited to the hours of 7 a.m. to 8 p.m. Monday through Friday and 9 a.m. to 6 p.m. on Saturdays, Sundays and federal holidays.

**Table AQ-1**
**Estimated Construction Schedule**

| Phase | Description | Start | End | Working Days |
|---|---|---|---|---|
| 1 | Demolition | 1/1/2022 | 1/7/2022 | 5 |
| 2 | Grading | 1/8/20200 | 2/18/2022 | 30 |
| 3 | Site Preparation | 1/8/2022 | 6/24/2022 | 120 |
| 4 | Paving | 6/25/2022 | 8/5/2022 | 30 |
| 5 | Building Construction | 8/9/2022 | 11/29/2024 | 605 |
| 6 | Architectural Coating | 10/28/2024 | 11/29/2024 | 25 |

*SOURCE: CARB CalEEMod Version 2016.3.2.*

Demolition would involve removal of approximately 140 tons of rubble and concrete.[13] Site preparation would consist of land clearing and grading resulting in approximately 6,000 cubic yards of cut materials and 11,500 cubic yards of fill materials requiring approximately 1,438 haul truck trips. Additionally, approximately 1,850 cubic yards of rubble and concrete would be removed requiring 231 haul truck trips. The existing asphalt on site will be processed, recycled, and reused on-site for fill. The estimated construction equipment associated with the proposed project along with the number of pieces of equipment, daily hours of operation, horsepower (hp), and load factor (i.e., percent of full throttle) are shown in Table AQ-2.

Table AQ-3 provides the estimated short-term construction emissions that would be associated with the proposed project and compares those emissions to the BAAQMD's significance thresholds for construction exhaust emissions. The average daily construction period emissions (i.e., total construction period emissions divided by the number of construction days) were compared to the BAAQMD significance thresholds. All construction-related emissions would be below the BAAQMD significance thresholds, which are listed in Table AQ-3.

Based on the CalEEMod and using standard fuel consumption estimates, construction activities would require approximately 126,900 gallons of diesel fuel. [14]

[13] Most concrete has a density of 140 pounds per cubic feet, but when steel reinforcing is added the density increases to 145 to 150 pounds per cubic feet. This work is included in the clearing phase. Large excavators with hoe rams and munchers will be utilized. Grinders would crush concrete for reuse and recycling.

[14] Fuel usage is estimated using the CalEEMod output for $CO_2$, and a 10.15 kg $CO_2$/gallon conversion factor for diesel fuel, Accessed March 23, 2021 at: https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf.

**Table AQ-2**
**Estimated Construction Equipment Usage**

| Phase | Equipment | No. of Pieces | Daily Hours | Horse-power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 1 | 8 | 81 | 0.73 |
| Demolition | Excavators | 3 | 8 | 158 | 0.38 |
| Demolition | Rubber Tired Dozers | 2 | 8 | 247 | 0.40 |
| Site Preparation | Rubber Tired Dozers | 3 | 8 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8 | 97 | 0.37 |
| Grading | Excavators | 1 | 8 | 158 | 0.38 |
| Grading | Graders | 1 | 8 | 97 | 0.37 |
| Grading | Rubber Tired Dozers | 1 | 8 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8 | 89 | 0.20 |
| Building Construction | Generators | 1 | 8 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8 | 46 | 0.46 |
| Paving | Cement and Mortar Mixers | 2 | 6 | 9 | 0.56 |
| Paving | Pavers | 1 | 8 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 6 | 132 | 0.36 |
| Paving | Rollers | 2 | 6 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6 | 78 | 0.48 |

*SOURCE: CARB CalEEMod Version 2016.3.2.*

**Table AQ-3**
**Estimated Daily Construction Emissions (pounds)**

| Condition | ROG | NOx | PM10 | PM2.5 | CO |
|---|---|---|---|---|---|
| | **Unmitigated** | | | | |
| Construction | 4.94 | 19.5 | 0.88 | 0.82 | 19.0 |
| Significance Threshold | 54 | 54 | 82 | 54 | --- |
| Significant (Yes or No)? | No | No | No | No | No |
| | **Mitigated** | | | | |
| Construction | 3.42 | 3.64 | 0.01 | 0.01 | 20.3 |
| Significance Threshold | 54 | 54 | 82 | 54 | --- |
| Significant (Yes or No)? | No | No | No | No | No |

*SOURCE: CARB CalEEMod Version 2016.3.2 and SMAQMD Road Construction Emissions Model Version 9.0.0.*
*NOTE: Mitigated construction emissions estimates assume implementation of Mitigation Measures AQ-1 through AQ-4.*

Although the modeling results presented above demonstrate that there is no potential for construction of the project to violate air quality standards, BAAQMD recommends implementation of its Basic Construction Mitigation Measures by all projects subject to environmental review under CEQA. Therefore, in accordance with BAAQMD's *CEQA Air Quality Guidelines*, absent implementation of BAAQMD's Basic Construction Mitigation Measures, the project's effects of construction-generated criteria pollutants are presumed to have a ***potentially significant construction impact*** on air quality. Implementation of the controls listed in Mitigation Measure AQ-1, which incorporates the Basic Construction Mitigation Measures, would reduce the project's construction-related air quality impacts to a less-than-significant level.

**Mitigation Measure AQ-1:** The project applicant shall require the construction contractors to reduce the severity of project construction-generated fugitive dust and equipment exhaust impacts by complying with the following control measures at all construction and staging areas:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

It is assumed the applicant will comply with BAAQMD's Regulation 8, Rule 3 for Architectural Coatings, which limits emissions of VOCs from architectural coatings. Rule 8-3 was revised on January 1, 2011 to include more stringent VOC limits. The revised VOC architectural coating limits mandate the use paints and solvents with a VOC content of 100 grams per liter or less for interior and 150 grams per liter or less for exterior surfaces.

### *Operational Impacts*

CalEEMod was also used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance emissions expected to occur after the proposed project construction is complete and the project is operational. The proposed project land use types and size and other project-specific information were input to the model. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste transport and landfill disposal. The CalEEMod output worksheets are included in Appendix A.

A daily trip rate of 5.80 weekday trips per dwelling unit was used to estimate mobile vehicle emissions.[15] The project site is in a dense urban environment where some trips are walk, bike, or transit trips.[16] The annual vehicle miles traveled for the existing activities was estimated to be approximately 1,269,051 miles, requiring approximately 49,900 gallons of gasoline. The daily home-based vehicle miles traveled (VMT) per resident would be 10.2 vehicle-miles.

Estimated daily and annual operational emissions associated with the proposed project are presented in Tables AQ-4 and AQ-5 and are compared to BAAQMD's thresholds of significance. As indicated in the tables, the proposed project's operational emissions would be below the BAAQMD's significance thresholds; therefore, the project would have a ***less-than-significant operational impact*** on air quality.

[15] Lee Reis, Fehr & Peers, personal communication, May 10, 2021.

[16] Traffic assessment reduced the ITE based trip generation of 7.20 weekday trips per dwelling unit by 19 percent to account for the non-automobile trips.

**Table AQ-4**
**Estimated Daily Operational Emissions (pounds)**

| Condition | ROG | NOx | PM10 | PM2.5 | CO |
|---|---|---|---|---|---|
| Summer | 4.85 | 2.72 | 2.84 | 0.81 | 15.7 |
| Winter | 4.71 | 2.85 | 2.84 | 0.81 | 15.6 |
| **Maximum Daily Proposed Project** | **4.85** | **2.85** | **2.84** | **0.81** | **15.7** |
| Significance Threshold | 54 | 54 | 82 | 54 | --- |
| Significant (Yes or No)? | No | No | No | No | No |

*SOURCE: CARB CalEEMod Version 2016.3.2.*

**Table AQ-5**
**Estimated Annual Operational Emissions (tons)**

| Condition | ROG | NOx | PM10 | PM2.5 | CO |
|---|---|---|---|---|---|
| Area | 0.72 | 0.01 | 0.00 | 0.00 | 0.74 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.11 | 0.48 | 0.48 | 0.13 | 1.25 |
| **Annual Proposed Project** | **0.84** | **0.49** | **0.48** | **0.13** | **1.99** |
| Significance Threshold | 10 | 10 | 15 | 10 | --- |
| Significant (Yes or No)? | No | No | No | No | No |

*SOURCE: CARB CalEEMod Version 2016.3.2.*

The BAAQMD *CEQA Air Quality Guidelines* recommend that cumulative air quality effects from criteria air pollutants also be addressed by comparison to the mass daily and annual thresholds. These thresholds were developed to identify a cumulatively considerable contribution to a significant regional air quality impact. As shown above, the project-related construction and operational emissions would be well below the significance thresholds. Therefore, the proposed project's emissions of criteria air pollutants would not be cumulatively considerable, and the project would have a ***less-than-significant cumulative impact*** on air quality.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) *Expose sensitive receptors to substantial pollutant concentrations?* | ☐ | ☒ | ☐ | ☐ |

Explanation: The BAAQMD *CEQA Air Quality Guidelines* require an assessment of air toxics impacts on sensitive receptors. Toxic air contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and some commercial operations, such as gasoline service stations and dry cleaners. TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

The BAAQMD *CEQA Air Quality Guidelines* also require an assessment of $PM_{2.5}$ concentrations as a result of a proposed project's construction exhaust emissions. The proposed project would constitute a new emission source of TACs—including diesel particulate matter (DPM) and $PM_{2.5}$—during project construction from operation of heavy-duty construction equipment.[17] Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. The proposed project would also locate sensitive receptors near existing permitted stationary sources and major roadways.

A Health Risk Assessment (HRA) was conducted to determine the health impacts, in terms of excess cancer risk and non-cancer hazards, using the significance levels identified by the BAAQMD's *CEQA Air Quality Guidelines*. In accordance with the BAAQMD *CEQA Air Quality Guidelines*, the HRA also evaluated concentrations of $PM_{2.5}$. The HRA was prepared based on the California Office of Environmental Health Hazard Assessment's (OEHHA's) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.*[18]

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst-case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

The HRA analyzed the incremental cancer risks to sensitive receptors in the vicinity of the proposed project, using emission rates (in pounds per hour) from CARB's CalEEMod emission model. DPM (reported as exhaust emissions of $PM_{2.5}$) emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the proposed project vicinity. The HRA is intended to provide a worst-case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved

[17] In 1998, CARB classified diesel particulate matter as a toxic air contaminant, citing its potential to cause cancer and other health problems. The USEPA concluded that long-term exposure to diesel engine exhaust is likely to pose a lung cancer hazard to humans and can also contribute to other acute and chronic health effects.

[18] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015. http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

toxicity factors, and conservative exposure parameters. The supporting methodology and assumptions used in the HRA are provided in Appendix B.

In accordance with the OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* the HRA for the proposed project was conducted by applying the highest estimated concentrations of TACs at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a young child exposure (from the third trimester of the mother's pregnancy through 2 years of age) and adult exposure. The OEHHA-recommended age sensitivity factors and breathing rates were also applied to the cancer risk calculations of the DPM concentration exposures, as were assumptions of the fraction of time spent at home and a long-term exposure duration of 30 years. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer-causing air pollutants.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models, and the variability in lifestyles, fitness, and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of the HRA are highly overstated.

### *Project Construction Health Impacts on Existing Sensitive Receptors*

The following describes the HRA results of potential health risk to existing sensitive residential receptors from exposure to unmitigated project construction activities. As shown in Table AQ-6, the maximum cancer risk from unmitigated construction emissions for a residential-adult receptor would be 54.0 additional cancers per million people and for a residential-child receptor it would be 1,137 additional cancers per million persons.[19] The maximum concentrations would occur at a residential receptor (also known as the maximum exposed individual, or MEI), located on Napa Street, between the two project parcels. Thus, the cancer risk due to construction activities are potentially above the BAAQMD threshold of 10 per million and would be a potentially significant cancer risk impact. Implementation of the following mitigation measure would reduce the impact to a ***less-than-significant-with-mitigation*** level:

**Mitigation Measure AQ-2:** *BAAQMD Enhanced Exhaust Emissions Reduction Measures.* The applicant shall implement the following measures during construction to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
2. All off-road equipment larger than 50 horsepower shall have engines that meet or exceed either USEPA or CARB Tier 4 off-road emission standards and Level 3 Diesel Particulate

[19] This theoretical individual would be born on construction year 1 and subsequently be exposed to the full construction period. Individuals born after construction year 1 would be exposed to shorter construction duration and thus, result in a lower risk and health impacts.

Filters (DPF). Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant.

**Table AQ-6**

**Estimated Unmitigated Construction Health Impacts on Existing Receptors**

| Source | Cancer Risk (adult/child) | Hazard Impact (acute/chronic) | $PM_{2.5}$ Concentration |
|---|---|---|---|
| Unmitigated Project Construction | 54.0/1,137 | 2.19/1.07 | 5.37 |
| Significance Threshold | 10 | 1.0 | 0.3 |
| Significant (Yes or No)? | **Yes** | **Yes** | **Yes** |

*SOURCE: RCH Group*

Table AQ-7 shows that, with the implementation of Mitigation Measures AQ-1 and AQ-2, the maximum cancer risk from mitigated project construction for a residential-adult receptor would be 0.4 per million and for a residential-child receptor would be 9.0 per million. Thus, the cancer risk due to construction activities would be below the BAAQMD threshold of 10 per million and would be less than significant with mitigation.

**Table AQ-7**

**Estimated Mitigated Construction Health Impacts on Existing Receptors**

| Source | Cancer Risk (adult/child) | Hazard Impact (acute/chronic) | $PM_{2.5}$ Concentration |
|---|---|---|---|
| Mitigated Project Construction | 0.4/9.0 | 0.02/0.01 | 0.04 |
| Significance Threshold | 10 | 1.0 | 0.3 |
| Significant (Yes or No)? | No | No | No |

*SOURCE: RCH Group*

### *Project Construction Non-Cancer Health Impacts on Existing Sensitive Receptors*

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer were also addressed and are measured against a hazard index (HI). The hazard index is defined as the ratio of the estimated air concentrations of DPM at the nearby sensitive receptors to a reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system.

The overall HI is calculated for each organ system. The health impact is considered to be significant if the HI is greater than 1.0 (i.e., the estimated air concentrations of DPM is greater than the REL).

There is no acute REL for DPM. However, diesel exhaust does contain acrolein, formaldehyde, and other compounds, which do have acute RELs. Acrolein emissions represent over 90 percent of the acute health impacts from diesel engines. Accordingly, the HRA focused on the acute health impacts from exposure to acrolein emissions. The acute REL for acrolein established by the California OEHHA is 2.5 $\mu g/m^3$.[20] Thus, if the proposed project-related one-hour concentration of acrolein exceeds 2.5 $\mu g/m^3$, resulting in an acute HI of greater than 1.0 (i.e., acrolein one-hour concentration/2.5 $\mu g/m^3$), the acute health impacts would be significant. The chronic reference exposure level for DPM established by the California OEHHA is 5 $\mu g/m^3$.[21] Thus, if the proposed project-related annual concentration of DPM exceeds 5.0 $\mu g/m^3$, resulting in a chronic HI of greater than 1.0 (i.e., DPM annual concentration/5.0 $\mu g/m^3$), the chronic health impacts would be significant.

The unmitigated chronic HI would be 1.07, based on a proposed project-related maximum annual diesel concentration of 5.37 $\mu g/m^3$ (per dispersion modeling analysis) or 5.37 $\mu g/m^3$/5.0 $\mu g/m^3$, which is 1.07. The mitigated chronic HI would be 0.01. The chronic HI would be below the project-level threshold of 1 and the non-cancer health impact of the proposed project would therefore be ***less than significant***.

### *$PM_{2.5}$ Concentration*

Dispersion modeling also estimated the exposure of sensitive receptors to concentrations of $PM_{2.5}$ (expressed in $\mu g/m^3$) generated during project construction. The BAAQMD *CEQA Air Quality Guidelines* require inclusion only of $PM_{2.5}$ exhaust emissions in the HRA analysis, while fugitive dust emissions are addressed under BAAQMD dust control measures which are required by Mitigation Measure AQ-1, above, to be implemented during project construction.

The proposed project's unmitigated annual $PM_{2.5}$ concentration from construction activities would be 5.37 $\mu g/m^3$. Thus, the annual unmitigated $PM_{2.5}$ concentration due to project construction would be potentially above the BAAQMD threshold of 0.3 $\mu g/m^3$. However, with implementation of Mitigation Measures AQ-1 and AQ-2, the annual mitigated $PM_{2.5}$ concentration would be reduced to 0.04 $\mu g/m^3$. These concentrations would be at ground level, and would be lower at the upper stories of the townhomes. Thus, the annual $PM_{2.5}$ concentration due to project construction would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered ***less than significant with mitigation***.

### *Operational Health Impacts*

The operations associated with the proposed project would involve minimal emissions from motor vehicles, and natural gas consumption for home heating. The daily weekday trip rate of 9.22 weekday trips per dwelling unit or an annual vehicle miles traveled of approximately 130,915 miles would result in less-than-significant emissions and very limited emissions related to diesel motor vehicles. Thus, the health impacts due to project operations would be expected to be ***less than significant***.

The proposed project consists of residential townhomes, so operational health impacts would be created by vehicles traveling to and from the site by residents, visitors, delivery services, and service/maintenance providers. There would be no on-site air toxics sources such as diesel generators during operation of the project. The project is expected to generate approximately 715 average daily vehicle trips, the majority of which would be generated by passenger vehicles. Because nearly all passenger vehicles are gasoline-combusted, the proposed project would not generate significant

[20] California Office of Environmental Health Hazards Assessment, Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014**,** http://www.oehha.ca.gov/air/allrels.html.

[21] *Ibid*.

amount of DPM emissions during operation. The proposed townhomes would include garages with pre-wiring for EV charging. Therefore, the project would not result in significant health impacts to nearby sensitive receptors during operation.

### *Health Impacts on Proposed Sensitive Receptors*

The following describes the health risk assessment results associated with proposed residences as a result of existing cumulative sources such as permitted sources (i.e., diesel generators, boilers, gasoline stations), major roadways, and rail activities, etc. The BAAQMD's *CEQA Air Quality Guidelines* include standards and methods for determining the significance of cumulative health risk impacts. The method for determining cumulative health risk requires the tallying of health risk from permitted stationary sources, rail activities, and roadways in the vicinity of a project (i.e., within a 1,000-foot radius or "zone of influence") to determine whether the cumulative health risk thresholds are exceeded.

BAAQMD has developed a geo-referenced database of permitted emissions sources throughout the San Francisco Bay Area, and has developed the *Stationary Source Risk & Hazard Analysis Tool*[22] for estimating cumulative health risks from permitted sources. Three permitted stationary sources (diesel generators and gasoline fueling) are located within 1,000 feet of the project site. The total cumulative cancer risk from the three permitted stationary sources is 3.5 cancers per million persons.

I-580 and rail activities are located to the west of the project site and I-80 is located to the east, in close proximity to the project site. The unmitigated cumulative cancer risks impacting the proposed residences from existing emission sources within 1,000 feet of the project site, including the permitted stationary sources, rail activities, and both nearby freeways, are shown in Table AQ-8, while Table AQ-9 provides the mitigated cumulative cancer risks. As shown in Table AQ-8, townhomes within 200 feet of the western boundary (based on the site plan, this would include townhome buildings 6 through 15) would experience a ***potentially significant cumulative health impact***. However, as shown in Table AQ-9, with implementation of Mitigation Measure AQ-3, the cumulative health impacts at all townhomes would be less than significant impact on proposed residences.

**Mitigation Measure AQ-3:** The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:

- Installation of air filtration to reduce cancer risks and particulate matter exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated Minimum Efficiency Reporting Value (MERV)-13 or higher, in accordance with California Code of Regulations Title 24, Part 6.[23] MERV-13 air filters are considered high efficiency filters able to remove 80 percent of $PM_{2.5}$ from indoor air. MERV-13 air filters may reduce concentrations of DPM from mobile sources by approximately 50 percent. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.

[22] Bay Area Air Quality Management District, *CEQA Tools and Methodologies*, http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools.

[23] Building Energy Efficiency Standards For Residential And Nonresidential Buildings, December 2018, Accessed April 21, 2021 at: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf.

To ensure adequate health protection to sensitive receptors, a ventilation system should meet the following minimal design standards:

  - A MERV-13, or higher, rating that represents a minimum of 80-percent efficiency to capture fine particulates;
  - At least one air exchange(s) per hour of fresh outside filtered air;
  - At least four air exchange(s) per hour of recirculation; and
  - At least 0.25 air exchange(s) per hour in unfiltered infiltration.

- Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph).
- Per BAAQMD's *Planning Health Places Guidebook*, the project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible.
- The project shall plant dense rows of trees and other vegetation between sensitive receptors and air pollution sources, if feasible. Since the greatest existing air pollutant emissions sources are to the east of the site (i.e., vehicle traffic on I-80 and San Joaquin Street), trees should be planted along the site boundary adjacent to San Joaquin Street, if feasible. Trees are already proposed at this location, but the species are unknown, and it may be feasible to increase the density of vegetation along the site boundary. Trees that are best suited to trapping air pollution shall be planted, including one or more of the following: Pine (*Pinus nigra* var. *maritima*), Cypress (*X Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids X trichocarpa*), and Redwood (*Sequoia sempervirens*), as recommended by BAAQMD's *Planning Health Places Guidebook*.

BAAQMD's *Planning Health Places Guidebook* recommends incorporating solid barriers into site design, similar to a sound wall, between buildings and sources of air pollution. The presence of a noise barrier often leads to pollutant concentration reductions behind the barrier during meteorological conditions with winds directionally from the emission source. $PM_{2.5}$ concentrations generally decrease between 15 and 50 percent behind a noise barrier. However, conditions may also occur when pollutant concentrations are 15 to 50 percent greater behind the barrier than when no barrier is present. These results imply that the presence of a noise barrier can lead to lower or higher pollutant concentrations during certain wind conditions.[24] There is an existing noise barrier along I-80 on the east side of San Joaquin Street (about 40 feet east of the eastern site boundary) and a proposed noise barrier (8 feet tall) would be located along the rail line/western boundary and along the northern boundary. However, based on the results of the cumulative $PM_{2.5}$ concentrations analysis (see Table AQ-10), the noise

[24] University of California at Riverside, Atmospheric Environment: Impacts of Noise Barriers on Near-Road and On-Road Air Quality, May 2008, Accessed March 23, 2021 at: https://escholarship.org/content/qt1ch1q6wx/qt1ch1q6wx.pdf.

barriers would not cause the $PM_{2.5}$ concentrations and proposed project receptor exposures to be greater than the significance threshold.

**Table AQ-8**
**Estimated Unmitigated Cancer Risks for Project Receptors**

| Distance from Project Site Western Boundary (feet) | Cancer Risk from I-580 | Cancer Risk from I-80 | Cancer Risk from Rail Activity | Total Cancer Risk |
|---|---|---|---|---|
| 25 | 91.5 | 3.61 | 70.6 | **169** |
| 50 | 86.2 | 3.77 | 55.6 | **149** |
| 75 | 80.5 | 3.93 | 46.0 | **134** |
| 100 | 69.4 | 4.09 | 39.6 | **117** |
| 150 | 63.0 | 4.57 | 32.8 | **104** |
| 200 | 56.5 | 4.93 | 26.0 | 90.9 |
| 300 | 47.9 | 6.39 | 19.6 | 77.4 |
| 400 | 42.6 | 8.22 | 15.9 | 70.2 |
| 500 | 37.4 | 11.1 | 13.3 | 65.3 |
| 550 | 34.7 | 12.3 | 12.6 | 63.1 |
| 625 | 33.2 | 15.8 | 11.4 | 64.0 |
| 750 | 28.7 | 24.3 | 9.50 | 65.9 |
| 800 | 27.1 | 33.9 | 9.28 | 73.8 |
| 850 | 25.6 | 43.5 | 8.62 | 81.2 |
| Significance Threshold | | | | 100 |
| Significant (Yes or No)? | | | | **Yes** |

*SOURCE: Bay Area Air Quality Management District, Highway Screening Analysis Tool, 2016, Bay Area Air Quality Management District, Rail Activities Screening Analysis Tool, 2016, and Bay Area Air Quality Management District, Stationary Source Risk & Hazard GIS Tool, 2020.*

**Table AQ-9**
**Estimated Mitigated Cancer Risks for Project Receptors**

| Distance from Project Site Western Boundary (feet) | Cancer Risk from I-580 | Cancer Risk from I-80 | Cancer Risk from Rail Activity | Total Cancer Risk |
|---|---|---|---|---|
| 25 | 45.7 | 1.81 | 35.3 | 86.4 |
| 50 | 43.1 | 1.89 | 27.8 | 76.3 |
| 75 | 40.2 | 1.96 | 23.0 | 68.7 |
| 100 | 34.7 | 2.04 | 19.8 | 60.1 |
| 150 | 31.5 | 2.28 | 16.4 | 53.7 |
| 200 | 28.2 | 2.47 | 13.0 | 47.2 |
| 300 | 23.9 | 3.20 | 9.82 | 40.5 |
| 400 | 21.3 | 4.11 | 7.94 | 36.9 |
| 500 | 18.7 | 5.57 | 6.66 | 34.4 |
| 550 | 17.4 | 6.15 | 6.28 | 33.3 |
| 625 | 16.6 | 7.92 | 5.70 | 33.7 |
| 750 | 14.3 | 12.1 | 4.75 | 34.7 |
| 800 | 13.6 | 16.9 | 4.64 | 38.6 |
| 850 | 12.8 | 21.7 | 4.31 | 42.4 |
| Significance Threshold | | | | 100 |
| Significant (Yes or No)? | | | | No |

*SOURCE: Bay Area Air Quality Management District, Highway Screening Analysis Tool, 2016, Bay Area Air Quality Management District, Rail Activities Screening Analysis Tool, 2016, and Bay Area Air Quality Management District, Stationary Source Risk & Hazard GIS Tool, 2020.*

The mitigated cumulative $PM_{2.5}$ concentration impacting the proposed residences from existing emission sources within 1,000 feet of the project site are shown in Table AQ-10. As shown in the table, the mitigated cumulative $PM_{2.5}$ concentrations at all townhomes would have a ***less-than-significant cumulative impact*** on proposed residences.

**Table AQ-10**

**Estimated Mitigated $PM_{2.5}$ Concentrations for Project Receptors**

| Distance from Project Site Western Boundary (feet) | $PM_{2.5}$ Concentration from I-580 | $PM_{2.5}$ Concentration from I-80 | $PM_{2.5}$ Concentration from Rail Activity | Total $PM_{2.5}$ Concentration |
|---|---|---|---|---|
| 25 | 0.07 | <0.01 | 0.02 | 0.17 |
| 50 | 0.07 | <0.01 | 0.01 | 0.16 |
| 75 | 0.06 | <0.01 | 0.01 | 0.15 |
| 100 | 0.06 | <0.01 | 0.01 | 0.14 |
| 150 | 0.05 | 0.01 | 0.01 | 0.13 |
| 200 | 0.05 | 0.01 | 0.01 | 0.13 |
| 300 | 0.04 | 0.01 | <0.01 | 0.12 |
| 400 | 0.03 | 0.01 | <0.01 | 0.12 |
| 500 | 0.03 | 0.01 | <0.01 | 0.12 |
| 550 | 0.03 | 0.01 | <0.01 | 0.12 |
| 625 | 0.03 | 0.02 | <0.01 | 0.12 |
| 750 | 0.02 | 0.03 | <0.01 | 0.12 |
| 800 | 0.02 | 0.04 | <0.01 | 0.13 |
| 850 | 0.02 | 0.05 | <0.01 | 0.14 |
| Significance Threshold | | | | 0.8 |
| Significant (Yes or No)? | | | | No |

*SOURCE: Bay Area Air Quality Management District, Highway Screening Analysis Tool, 2016, Bay Area Air Quality Management District, Rail Activities Screening Analysis Tool, 2016, and Bay Area Air Quality Management District, Stationary Source Risk & Hazard GIS Tool, 2020.*

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Though offensive odors from stationary and mobile sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, odor

emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion.

The BAAQMD's significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. The operational odor threshold of significance adopted in the BAAQMD CEQA guidelines is five confirmed complaints per year averaged over three years; there is no threshold for construction activity.

With respect to the proposed project, following completion of project construction, residential development is not typically associated with unpleasant odor emissions, so it is assumed there would be no objectionable odors generated during project operations. In the highly unlikely event that the project created an ongoing odor impact, it would be addressed through complaints to BAAQMD. During the short-term construction of the project, diesel-fueled equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people. Due to the project site's proximity to San Francisco Bay, average wind speeds at the project site are expected to be higher than the average wind speeds reported for the City of Richmond, which has average wind speeds of 8.0 miles per hour (mph) for half the year and 6.8 mph for the other, calmer half of the year (August 28 to March 11).[25] With the project site exposed to prevailing westerly winds, upward dissipation of construction odors would be expected to occur more rapidly than at a more protected site.

Although found objectionable by many people, odors generated by construction equipment are intermittent and short-term sources of odors that are highly subject to the atmospheric dispersion and dissipation described above. The project would have ***less-than-significant odor impacts*** during construction. Following completion of project construction, there would be no objectionable odors generated during project operations.

Odor impacts can also occur from siting a new receptor (particularly a residential receptor) in proximity to an existing odor source, such as a sanitary landfill, wastewater treatment plant, asphalt batch plant, or petroleum refinery, among many other sources. The BAAQMD CEQA guidelines establish screening distances from a variety of odor sources that range from 1 to 2 miles. There are no odor-generating land uses listed in Table 3-3 of the BAAQMD CEQA guidelines within 2 miles of the project site, so future project residents would not be exposed to objectionable odors from existing facilities.

[25] Weather Spark, Average Weather in Richmond, California, United States, Accessed April 20, 2021 at: https://weatherspark.com/y/551/Average-Weather-in-Richmond-California-United-States-Year-Round.

## IV. 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?* | ☐ | ☒ | ☐ | ☐ |

Explanation: The project site does not contain any sensitive habitat or high quality biological resources. All three project parcels have been subject to surface disturbance over previous decades. Based on a review of historical aerial photographs dating to 1946, the eastern parcel shows signs of previous agricultural cultivation. The trees growing around the perimeters of the three project parcels were all planted as introduced ornamental species. They include numerous Australian blackwood trees (*Acacia melanoxylon*) and lemon-scented gum trees (*Corymbia citriodora*). Ruderal vegetation covers the surface of the parcels except where there are degraded pavements, concrete pads, and exposed earth.

The project parcels are located in an urbanized area that has been largely developed for many decades. The parcels to the north have been disturbed with commercial uses since the 1950s. Due to the dense urban development in the area and the close proximity of two heavily-trafficked freeways—one approximately 150 feet west of the western project parcel, and the other about 50 feet to the east—there is very little opportunity for terrestrial wildlife species to migrate on to the project parcels, and little to no incentive to do so, given the disturbed nature of the parcels and the lack of suitable foraging habitat.

Although there is no evidence of sensitive wildlife species frequenting the site, the mature trees may provide roosting and nesting habitat for raptors or other protected birds. Based on a 2018 search of the California Natural Diversity Database (CNDDB) maintained by the California Department of Fish and Wildlife (CDFW) for another project in Richmond similarly situated in proximity to marshland on the margins of San Francisco Bay, special-status bird species that have potential to occur within the areas encompassed by the Richmond, Mare Island, Benicia, Briones Valley, Oakland East, Oakland West, San Francisco North, San Quentin, and Petaluma Point 7.5-minute quadrangle U.S. Geologic Society (USGS) topographic maps include the following species:[26]

- Cooper's Hawk (*Accipiter cooperii*)
- Sharp-Shinned Hawk (*Accipiter striatus*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- Golden Eagle (*Aquila chrysaetos*)
- Great Egret (*Ardea alba*) Rookeries

[26] Olberding Environmental, Inc., *Biological Resources Analysis Report for the Parkway Commerce Center Property, City of Richmond, Contra Costa, California*, July 2018.

- Great Blue Heron (*Ardea herodias*) Rookeries
- Short-Eared Owl (*Asio flammeus*)
- Burrowing Owl (*Athene cunicularia*)
- Oak Titmouse (*Baeolophus inornatus*)
- Red-tailed Hawk (*Buteo jamaicensis*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Ferruginous Hawk (*Buteo regalis*)
- Western Snowy Plover (*Charadrius alexandrinus nivosus*)
- Northern Harrier (*Circus cyaneus*)
- Yellow Rail (*Coturnicops noveboracensis*)
- Snowy Egret (*Egretta thula*) Rookeries
- White-tailed Kite (*Elanus leucurus*)
- California Horned Lark (*Eremophila alpestris actia*)
- Prairie Falcon (*Falco mexicanus*)
- American Peregrine Falcon (*Falco peregrinus anatum*)
- American Kestrel (*Falco sparverius*)
- Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- California Black Rail (*Laterallus jamaicensis coturniculus*)
- Suisun Song Sparrow (*Melospiza melodia maxillaris*)
- Alameda Song Sparrow (*Melospiza melodia pusillula*)
- San Pablo Song Sparrow (*Melospiza melodia samuelis*)
- Long-Billed Curlew (*Numenius americanus*)
- Black-Crowned Night Heron (*Nycticorax nycticorax*) Rookeries
- Osprey (*Pandion halietus*)
- Bryant's Savannah Sparrow (*Passerculus sandwichensis alaudinus*)
- Double-Crested Cormorant (*Phalacrocorax auratus*)
- California Ridgeway's Rail (*Rallus longirostris obsoletus*)
- Black Skimmer (*Rynchops niger*)
- Rufous Hummingbird (*Selasphorus rufus*)
- Yellow Warbler (*Setophaga petechia*)
- California Least Tern (*Sternula antillarum browni*)
- Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*)

The habitat requirements for each of these species were reviewed, and while a number of species could utilize the saltmarsh habitat that lies less than 300 feet to the west of the project site, there is no suitable habitat on the project site to support the majority of these species. However, several raptors could utilize the trees on the site for roosting and/or nesting, including Cooper's hawk, sharp-shinned hawk, red-tailed hawk, red-shouldered hawk, and American kestrel. Were these birds to be present, they could be disturbed during site grading and project construction. If trees containing nests were removed during nesting season, there could be mortality of eggs and/or chicks. This would be a ***potentially significant impact***, which would be reduced to less than significant with implementation of the following mitigation measure:

**Mitigation Measure BR-1:** If any site grading or project construction will occur during the general bird nesting season (February 1 through August 31), a bird nesting survey shall be conducted by a qualified raptor biologist prior to any grading or construction activity. If conducted during the early part of the breeding season (January to April), the survey shall be conducted no more than 14 days prior to initiation of grading/construction activities, due to the higher probability that new nest construction could be initiated during this time. If conducted during the late part of the breeding season (May to August), when the potential for new nest creation is much lower, the survey shall be performed no more than 30 days prior to initiation of these activities. If active nests are identified, a 250-foot fenced buffer (or an appropriate buffer zone determined in consultation with the California Department of Fish and Wildlife) shall be established around the nest tree and the site shall be protected until September 1st or until the young have fledged. A biological monitor shall be present during earth-moving activity near the buffer zone to make sure that grading does not enter the buffer area.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) 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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There is no riparian habitat or other sensitive natural community on the project site.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There are no wetlands on the project site.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?* | ☐ | ☒ | ☐ | ☐ |

Explanation: The project site is bordered on the north by commercial development with frequent operation of forklifts and trucks on the site. It is flanked on the east and west by two heavily-trafficked freeways and by an active rail line on the west. The area to the south of the site is densely developed with single- and multi-family residences. The site itself is heavily disturbed and the western and central parcels provide virtually no foraging habitat, while the eastern parcel includes grasses that could provide limited foraging opportunities to species adapted to urbanized or disturbed habitats. Given these factors, conditions are highly unsuitable for the site to be utilized as a migratory corridor for wildlife. There is no fish habitat on the site, so there is no potential for the project to interfere with migratory fish. While the site may be utilized for roosting or nesting by raptors or other birds, there is no evidence the site functions as a significant migration corridor. Potential adverse effects on nesting birds would be addressed by implementation of Mitigation Measure BR-1. This would be a ***less-than-significant impact with mitigation***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?* | ☐ | ☐ | ☐ | ☒ |

Explanation: Richmond's tree protection ordinance, codified in Chapter 10.08 of the Municipal Code, applies only to trees on public property, including streets and parks. Although the planned removal of the existing trees on the project site would not be subject to this ordinance, the ordinance requires the

protection during construction of trees on public property that could be adversely affected by construction activity.

There are trees growing within the right-of-way (ROW) of Dalai Lama Avenue and Columbia Boulevard that encroach onto the project site. There are roughly a dozen mature trees within the public ROW that would need to be removed to accommodate the project. Their removal would be done at the applicant's expense. Removal of these trees would require a permit from the Director of the Richmond Recreation and Parks Department. Although the ordinance does not stipulate planting of replacement trees, Municipal Code Section 10.08.090 states that the Director may stipulate conditions for issuance of a tree removal permit, which could include the planting of replacement trees.

The project applicant has prepared a tree exhibit that indicates a total of 106 existing trees would be removed from the project site to accommodate the proposed project, including those from the public ROW. The project is proposing 142 new trees, to be planted throughout the project site, as shown on Figure 10. The proposed replacement trees would exceed a 1:1 replacement ratio and the applicant would be required to protect any City-owned trees not scheduled for removal during project construction. Therefore, the project would not conflict with the City's Municipal Code Chapter 10.08, and there are no other local policies or ordinances protecting biological resources that would apply to the project or with which the project could conflict. The project would have ***no impact*** on policies related to protection of biological resources.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There is no adopted Habitat Conservation Plan or other conservation plan applicable to the project site.

## V. 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?* | ☐ | ☒ | ☐ | ☐ |

Explanation: In order to be considered a significant historical resource as defined in Section 15064.5 of the *CEQA Guidelines*, a building must be at least 50 years old. In addition, Section 15064.5 defines an historical resource as, "… a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources," properties included in a local register of historical resources, or properties deemed significant pursuant to criteria set forth in *Public Resources Code* Section

5024.1(g). According to *CEQA Guidelines* Section 15064.5(a)(3), a lead agency can determine that a resource is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided that the determination is supported by substantial evidence in light of the whole record.

In order to be eligible for listing in the California Register of Historical Resources (CRHR), a property must meet at least one of the following criteria:

- Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion 2: Is associated with the lives of persons important in our past;
- Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.[27]

In addition, to being eligible for the California Register, the resource must retain enough of its historic integrity to be recognizable as an historical resource, and typically must be at least 50 years old. Following the National Register of Historic Places integrity criteria, California Register regulations specify that integrity is a quality that applies to historic resources in seven ways: location, design, setting, materials, workmanship, feeling, and association.[28]

There are currently no buildings or man-made improvements on the project site, aside from concrete pads and other remnants of the prior use of the western parcel by a satellite/telecommunications business. The project property was evaluated by a professional archaeologist as part of the environmental review summarized in this Initial Study; this evaluation also encompassed historical resources that may be present on the site.[29] As part of the investigation, Archeo-Tec reviewed historical and archaeological records on file at the Northwest Information Center (NWIC) at Sonoma State University, which is part of the California Historical Resources Information System (CHRIS). In addition to conducting archival research and a field reconnaissance of the project site, Archeo-Tec performed limited subsurface testing by excavating a shovel test pit (STP) in the southern end of the western parcel. It was excavated to a diameter of ½ meter and a depth of approximately 20 centimeters to remove surface vegetation. A 3-inch diameter hand auger was then used to bore to a depth of 60 centimeters (apx. 2 feet), with all subsurface soils inspected for cultural deposits and artifacts.

No historically significant cultural resources were observed during either the surface archaeological reconnaissance or the limited program of subsurface excavation that was performed by Archeo-Tec archaeologists. Scatters of fragmented marine shell were observed in areas of exposed sand fill on the central project parcel but showed no signs of cultural modification or association with shell midden or anthropic soils. As discussed further in the following subsection, the archival research conducted by Archeo-Tec did not reveal any recorded historical cultural resources on the project site or in the vicinity of the site. Archeo-Tec did conclude that the site is "sensitive" with respect to the potential for prehistoric archaeological resources, and additional subsurface testing is recommended. While there is low probability that historic-era cultural resources that are 45 years of age or older are present in

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[27] California Resources Agency, *CEQA Guidelines*, Section 15064.5(a)(3), as amended September 27, 2016.

[28] The definition of integrity under the California Register follows National Register of Historic Places criteria. Detailed definitions of the qualities of historic integrity are in National Register Bulletin 15, *How to Apply National Register Criteria for Evaluation*, published by the National Park Service.

[29] Archeo-Tec, *Phase I Cultural Resource Assessment for the Annex Project, City of Richmond, Contra Costa County, California*, May 2021.

the subsurface of the project site, in the unlikely event that historic resources are present at the site, implementation of Mitigation Measures CUL-1 and CUL-2, set forth in the next subsection, would ensure that impacts to historic resources would be less than significant. Accordingly, this would be a ***less-than-significant impact with mitigation***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?* | ☐ | ☒ | ☐ | ☐ |

Explanation:

***Ethnographic Context***

Humans have been continuously occupying California and the San Francisco Bay region for at least 12,000 years (Bartelink 2009; Erlandson et al. 2007). The earliest sites are in Lake, Sonoma, and Santa Cruz counties. In the Bay Area, a human burial dating to 5490 cal B.C.[30] was recovered from the Los Vaqueros Reservoir (Milliken et al. 2007:114), but sites dating to the Early Holocene/Lower Archaic (cal 8000-3500 B.C.) are extremely rare. During that time, people were highly mobile foragers, who used large leaf-shaped projectile points and handheld milling stones.

The Early Period/Middle Archaic (3500-500 cal B.C.) saw a general trend towards increased stone technologies, trade, and sedentism. This period is characterized by further niche specialization, a refinement of various technologies, specialized exploitation of plant and animal species, and increased sedentism. Many of the sites dating to this period in the San Francisco Bay region are shellmounds, which are midden sites containing large quantities of mollusk shells. Shellmounds were used for both habitation and the interment of human burials. In the early 20th century, archaeologist N.C. Nelson recorded over four hundred shellmounds around the edge of the San Francisco Bay (Nelson 1909).

The Ellis Landing Shellmound (CA-CCO-295), which is located approximately 2 miles west of the Project site, is estimated to have been occupied as early as 3,000 B.P.[31] (1,000 B.C.) (Banks and Orlins 1981). The Ellis Landing Shellmound produced artifacts such as stone net sinkers; an abundance of mortars, pestles, and bone implements; disk-shaped Olivella shell beads; weapon tips and knives, and bipointed bone objects (Nelson 1910). Located roughly 1 mile to the east of the project site, the Stege Mound Complex also yielded elements associated with the Early, Middle and Late archaeological time periods (Banks and Orlins 1981; Loud 1924).

The Middle Period/Upper Archaic of the San Francisco Bay Region (500 cal B.C.-1050 A.D.[32]) is marked by major changes in artifacts styles (especially beads). In cal A.D. 430, a "dramatic cultural disruption" associated with the collapse of the shell bead network resulted in changes to both artifact styles and burial practices (Milliken et al. 2007:115–116). What caused these changes is unclear but two general hypotheses have been posited: population pressure and migration.

[30] The scientific term "cal B.C." is an abbreviation for "calibrated years before Christ," and is a notation that signifies that the raw radiocarbon date cited has been corrected using current methodologies.

[31] "B.P." is an abbreviation for "before present."

[32] "A.D." is an abbreviation for "anno domini," which is Latin for "in the year of the Lord," and refers specifically to the birth of Jesus Christ.

The project site is situated in what was, prior to the arrival of the first Europeans in the closing decades of the 18th century, the approximate geographical center of the extensive territory occupied by the Ohlone people. Originally called “Costanoans” after the Spanish derivative for "coastal people" (Levy 1978), the terms Ohlone/Costanoan imply a close linguistic affiliation encompassing six (Golla 2011) or seven (Kroeber 1925) distinct dialect clusters.

The Costanoan languages derive from Penutian Stock (Callaghan 1967; Pitkin and Shipley 1958), a theoretical linguistic construct that appears to have its origins in the northwestern Great Basin (Hattori 1982). Penutian-speaking peoples presumably slowly migrated into Central California, perhaps as early as around 2500 B.C. (Moratto 1984). The proto-Utian migration (one of an estimated three major Penutian migrations) appears to have entered California from the Great Basin and settled the Sacramento/San Joaquin Basin. This may have been the origins of the Windmiller Pattern, which began around 4,400 years ago and is associated with the great shellmounds of the Bay Area (Golla 2007:76). As proto-Utian peoples continued to spread west after 2,000 B.C., they would have come in contact with existing Hokan-speaking populations. This fusion of Hokan and Utian may have become the Miwok and Ohlone cultures (Moratto 1984:553). By A.D. 300-500, proto-Ohlone speakers of Penutian stock were firmly ensconced in the San Francisco Bay region.

The project site is located within what was, at the time of contact, part of the tribal territory of the Huchiun Ohlone, who spoke the Chochenyo Ohlone dialect. Although the Ohlone, as an identifiable language and cultural group, often used bayshore shellmounds for their major village centers, they were not the original builders of the most ancient Bay Area mounds. The earliest shellmound components date to approximately 2,000 years before the arrival of the proto-Ohlone to the region. The cultural identity of the earliest shellmounds inhabitants remains unclear even today.

The Ohlone were semi-sedentary collectors and hunters of fish and game. Both ethnographic and archaeological records document the major dietary importance of acorns, which were pounded by stone mortar and pestle to create flour or mush. Other key food resources included fish, mollusks, crustaceans, waterfowl, land and sea mammals, and plant seeds. Vegetal material was used for making nets, cords, and baskets; animal remains and shells for tools and ornamentation; pelts and feathers for clothing and bedding; and local rock and mineral resources for tools and trade. Exotic materials, such as steatite and particularly obsidian, could be obtained in trade, using for barter such locally available commodities as red ochre and shell. Other valuable resources used to obtain exotic materials in trade with non-coastal peoples included salt and marine food resources.

Usually composed of about fifteen individuals, the family household was the basic social unit. Tribelets, or groups of interrelated villages, consisted of around 200 people, and served as the autonomous political unit, presumably for enforcing equal access to resources for its members and for protection from hostile neighbors. Following the common Central Californian practice, the Ohlone were divided into moieties – the Bear and the Deer.

In 1770, the Ohlone of the Bay Area numbered at most around 10,000 (Levy 1978), perhaps fewer (Kroeber 1925). Forty years later, by about A.D. 1810, much of the native population and most of the traditional culture of these people had been destroyed in the face of relentless European encroachment and its devastating impacts of disease, warfare, displacement and, above all, the California mission system (Cook 1943).

### *Archaeological Resources at the Project Site*

As discussed in the preceding subsection, a cultural resources assessment of the project site was conducted by the archaeological consulting firm Archeo-Tec as part of this environmental review that included archival research, a pedestrian survey of the site, and limited subsurface testing. No prehistoric archaeological resources were encountered during the field reconnaissance or subsurface testing. The archival research revealed that although numerous cultural resource studies have been

conducted within the ½-mile radius surrounding the project site, none of these studies resulted in the discovery of significant historic resources. One prehistoric period archaeological resource was identified within the search radius, designated CA-CCO-302. Located approximately 950 meters to the west of the project site, this probable shell mound deposit at Point Isabel was first recorded by Nels Nelson in 1907, and the archaeological record on file has not been updated since that time. The diffuse and disturbed deposit was situated on a small hill and was associated with buckeye trees. Nelson considered the possibility that the midden material could have been imported from another location; however, he was unable to confirm such earth moving, and the thick depth of the midden deposit in place led him to conclude that it was "probable that there was once something of a mound here" (Nelson 1907). CA-CCO-302 has been largely destroyed by the leveling of Point Isabel for construction of structures and artificial extension of the shoreline. Another shell mound recorded by Nelson located just to the west of the study area search radius also appears to have been destroyed this manner.

The archival search results showed that five cultural resources studies have been conducted within one-half mile of the project site, with none of them resulting in the discovery of significant archaeological resources. Nonetheless, Archeo-Tec concluded that the site is located in an area potentially sensitive for indigenous (Native American) cultural resources from the prehistoric period, due to its proximity to San Francisco Bay, Stege Creek, and El Cerrito Creek. Furthermore, the geologic setting of the site also indicates that it is sensitive for prehistoric cultural resources. Intact deposits of young (Holocene Era) alluvium in the Bay Area, especially those near the shoreline, are generally interpreted as sensitive for prehistoric cultural resources. Stable alluvial deposits, especially those near freshwater and marine resources, would have been suitable and attractive for habitation. The geotechnical report prepared for the project identifies Holocene Era alluvial soils beneath the fill, which were observed to a depth of at least 26 feet below surface. The hills that abut the southern and eastern portions of the project site also indicate that stable land surfaces have been present for quite some time.

Despite the large amount of fill placed on the eastern project parcel, Archeo-Tec found that the topography of the parcel appeared to not have been altered substantially, and concluded that it is possible that intact deposits are present just below the fill, either on the surface of, or within the upper few feet of, the native Holocene-era alluvial soils. Similarly, intact cultural deposits could be present below the fill within native alluvial soils on the central and western parcels. Were such resources to be present, excavation or other surface/subsurface disturbance undertaken during the development of the project could damage or destroy the resources, which could result in a ***significant, adverse impact*** on archaeological resources. Implementation of the following mitigation measures, based on Archeo-Tec's recommendations, and consistent with Section 15064.5 of the *CEQA Guidelines*, would reduce the potential impact to a less-than-significant level:

**Mitigation Measure CUL-1:** A qualified archaeologist shall advise the Project Construction Superintendent, Project Inspector, Building Inspector, and all construction contractor(s) responsible for overseeing and operating ground-disturbing equipment (e.g., backhoe operators) at a pre-construction conference of the potential for encountering cultural resources during construction and the applicant's responsibilities per CEQA should resources be encountered. The archaeologist shall prepare and distribute to meeting participants an Alert Sheet that includes representative photos of the types of cultural resources that could potentially be encountered during subsurface disturbance and outlines procedures for contacting an archaeologist in the event that unexpected archaeological resources are uncovered.

**Mitigation Measure CUL-2:** Following removal of fill and debris stockpiles on the surface of the eastern parcel, but prior to any subsurface disturbance of any of the project parcels, a qualified archaeologist shall conduct a limited program of subsurface testing to further determine the potential for buried archaeological resources to be present in subsurface soils. A series of 10 to 12 test borings, whose placement will be determined by the archaeologist, shall be excavated across all three project parcels to the depth of planned grading, trenching, or other ground disturbance. If ground disturbance will not penetrate further than 5 feet in depth, the test borings may be advanced using hand augers. If disturbance will extend deeper than 5 feet, a truck-mounted drill rig shall be used. This testing can be coordinated and consolidated with any additional subsurface geotechnical testing that may be required. If no indicators of cultural resources are encountered during the subsurface testing, then no further mitigation, other than that established in Mitigation Measures CUL-1, CUL-3, and CUL-4 would be required. If significant cultural resources are encountered during the subsurface testing, a professional archaeologist shall be present during any ground-disturbing construction work to monitor for the potential discovery of historic or prehistoric cultural resources. In the event any resources are encountered, implementation of Mitigation Measure CUL-3 would be required. If construction of the proposed project would not require any excavation into native alluvial soils, then Mitigation Measure CUL-2 does not need to be implemented.

**Mitigation Measure CUL-3:** Throughout site grading and all other ground-disturbing project construction activities, a qualified archaeological monitor shall be present to observe the construction activities in order to identify any historic or prehistoric cultural resources that could be encountered during the ground-disturbing activities. In the event that any cultural resources are discovered during ground-disturbing project construction activities, all ground disturbance within 100 feet of the find shall be halted until a qualified archaeologist can evaluate the resource(s) and, if necessary, recommend mitigation measures to implement a program of data recovery. This program would fully document, and therefore mitigate any significant adverse impacts to, the information potential of the resource(s). (Construction personnel shall not collect any cultural resources.) This advisory shall also be printed on the Plans and Specification Drawings for this project. Any further mitigation measures recommended by the archaeologist shall be implemented and construction shall not resume in the vicinity of the find until the archaeologist has authorized the resumption of work. The results of any additional archaeological effort required through the implementation of this measure and/or Mitigation Measures CUL-2 and CUL-4 shall be presented in a professional-quality report, to be submitted to the Richmond Planning Division and the Northwest Information Center at Sonoma State University in Rohnert Park.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *c) Disturb any human remains, including those interred outside of formal cemeteries?* | ☐ | ☒ | ☐ | ☐ |

Explanation: Similar to the potential to encounter cultural artifacts described in the preceding subsection, there is a possibility that human remains associated with the possible prehistoric occupation of the site by Native Americans could be present within the subsurface of the site. Such remains are considered sacred by Native American tribal groups, and their disturbance or destruction during site grading or other project construction activities would be a ***potentially significant impact***. Implementation of the following mitigation measure would reduce the potential impact to less than significant with mitigation.

**Mitigation Measure CUL-4:** In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Office of the Contra Costa County Coroner and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner's Office will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD in consultation with the archaeological consultant and the City, will advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

## VI. ENERGY — *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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Construction of the proposed project would require consumption of gasoline and diesel fuel by construction workers travelling to and from the site, by trucks delivering construction materials and supplies to the site, and by earthmoving, paving, and other construction equipment. Once the project is completed and occupied, gasoline and diesel fuel would continue to be consumed by residents, visitors, delivery and repair vehicles, and service providers traveling to and from the site. Electricity would be consumed for space and water heating and landscape maintenance (i.e., electricity to control irrigation equipment), as well as the operation of household appliances and

amenities that the future homeowners might use, such as electric vehicle charging. The project would be all electric, and no natural gas would be consumed on the site.

During construction of the project, the building contractor would be required by Mitigation Measure AQ-1 (see Section III-b) to limit idling time of equipment and vehicles to 5 minutes or less and maintain construction equipment and vehicles in optimal working condition. These requirements would benefit air quality and would also prevent wasteful or inefficient consumption of fuel during project construction. Although the City does not have a construction and demolition (C&D) debris recycling ordinance, the applicant will also be required to comply with the 2019 edition of the California Green Building Standards Code (CALGreen Code), codified in Title 24, Part 11 of the California Code of Regulations (CCR), which mandates diversion of at least 65 percent of C&D waste from landfill disposal. Compliance with these regulations would help reduce consumption of energy associated with transport, processing, and disposal of solid waste at landfills.

Once the project is completed and occupied, the City won't have direct control over how residents consume energy, but inefficient use of energy would be minimized through compliance with applicable provisions of the CALGreen Code and with general building energy efficiency standards, also part of Title 24, which require energy-efficient ceiling and rafter roof insulation, walls, floors, windows, doors, luminaires, heating and cooling systems, appliances, water heaters, and pool and spa systems.

Part 6 of Title 24 also sets energy and/or water efficiency standards for home appliances, including refrigerators, freezers, dishwashers, clothes washers and dryers, stoves, room and central air conditioners, space heaters, water heaters, pool heaters, plumbing fixtures, incandescent and fluorescent lamps, emergency lighting, luminaires, computers, televisions, audio and video equipment, battery charger systems, and more. There are also federal regulations pertaining to appliance efficiency, and in many cases, the California standards are the same as the federal standards. It should be noted that water efficiency contributes to energy efficiency by reducing energy requirements for treating and pumping domestic water.

The majority of the project's energy consumption for heating, cooling, lighting, and powering of appliances, equipment, and other electrical devices would be generated on-site by the solar panels atop each building. In this regard, the project would have a negligible effect on regional power supplies. Operation of non-electric vehicles (EVs) by residents, visitors, and service/delivery vehicles would be the primary way that energy resources would be consumed by the project. Based on the air quality modeling of project operations summarized in Section III, Air Quality, it was estimated that vehicular travel by residents, visitors/guests, and service/delivery vehicles would result in approximately 1,453,577 annual vehicle miles traveled once the project is fully occupied, consuming approximately 57,500 gallons of gasoline. This is assumed to be a conservative estimate, however, because the amount of electric vehicle (EV) usage factored into the CalEEMod likely underestimates the amount of EV usage that would be fostered by each townhome garage being pre-wired for EV charging, which would likely increase the rate of EV ownership. There would also be an EV charging station for use by visitors on the west side of the development, further fostering EV adoption and use.

Compliance with the energy efficiency regulations cited above along with additional green measures proposed by the project applicant would ensure that construction and operation of the proposed townhomes would not result in wasteful, inefficient, or unnecessary consumption of energy resources. The project would have a ***less-than-significant impact*** on energy resources.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?* | ☐ | ☐ | ☐ | ☒ |

Explanation: Statewide, the *Integrated Energy Policy Report* prepared by the California Energy Commission provides a blueprint for continuing to grow the California economy while reducing the environmental footprint of its energy system.[33] The State's energy system includes energy extraction, transport, conversion (such as combusting natural gas in power plants to generate electricity or producing gasoline and diesel from crude oil in refineries), and consumption for services (such as electricity for lighting, natural gas use in homes and buildings for space and water heating, pumping water to communities and crops, and gasoline and diesel to fuel cars and trucks), as well as electricity from out-of-State plants serving California.

California's electricity generation capacity is composed of multiple fuel sources, including coal, hydroelectric, natural gas, nuclear, oil, petroleum coke, waste heat, biomass, geothermal, solar photovoltaic, solar thermal, and wind. In 2019, the State had an installed generation capacity from these multiple sources of 200,475 gigawatt hours (GWh).[34] The composition of California's in-State generation capacity has shifted since the 2002 passage of Senate Bill 1078, which required that 20 percent of electric production come from renewable resources by 2017. With the passage of SB X1-2 in 2011, this was increased to 33 percent renewables by 2020; it was raised again to 50 percent renewables by December 31, 2030 by SB 350, passed in 2015.

Because energy consumption is directly tied to the emissions of GHGs, and in fact, is the source of 80 percent of GHG emissions in the State,[35] the City of Richmond's Climate Action Plan (CAP), intended to reduce emissions of GHGs, can be viewed as a local plan for energy efficiency, and in fact it contains GHG reduction measures specifically pertaining to building and energy efficiency as well as measures to divert 90 percent of solid waste from landfill disposal and measures to conserve water. (As noted above, water conservation has a beneficial effect on energy consumption.) As discussed in more detail in Section VIII-b, below, the project would not conflict with the City's CAP, and therefore would not conflict with a local plan for energy efficiency.

Because the CEC's *Integrated Energy Policy Report* is intended to reduce GHG emissions by transitioning the State's energy portfolio to more renewable energy sources, it can also be viewed as a plan for renewable energy and energy efficiency on the Statewide level. As discussed in Section VI-a, above, the proposed project would be required to comply with a variety of building and appliance energy efficiency standards, which would maximize its energy efficiency. Therefore, the project would not conflict with a State plan for energy efficiency.

[33] California Energy Commission, *2016 Integrated Energy Policy Report Update*, February 28, 2017.

[34] California Energy Commission, *California Energy Almanac*, Electric Generation Capacity & Energy, In-State Electric Generation by Fuel Type, Accessed April 24, 2021 at: http://www.energy.ca.gov/almanac/ electricity_data/electric_ generation_capacity.html.

[35] California Energy Commission, *2016 IEPR Update: Integrated Energy Policy Report*, Publication No. CEC-100-2016-003-CMF, Chapter 1: Environmental Performance of the Electricity Generation System, 2016.

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:* | | | | |
| *i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.* | ☐ | ☐ | ☐ | ☒ |

Explanation: The nearest active earthquake fault to the project site is the Hayward fault, which is located approximately 1.7 miles east of the project site.[36] Therefore, there are no Alquist-Priolo fault zones in proximity to the project site, and there is no potential for fault rupture to affect the proposed project.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *ii) Strong seismic ground shaking?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The San Francisco Bay Area is recognized by geologists and seismologists as one of the most seismically active region in the United States. Similar to most urban locations throughout the Bay Area, the project site is potentially subject to moderate to high seismic ground shaking during an earthquake on one of the major active earthquake faults that transect the region. Major earthquakes have occurred on the Hayward, Calaveras, and San Andreas faults during the past 200 years, and numerous minor earthquakes occur along these faults every year. At least five known earthquakes of Richter magnitude (RM) 6.5, four of them greater than RM 7.0, have occurred within the San Francisco Bay Area within the last 150 years. This includes the great 1908 San Francisco earthquake (moment magnitude 7.8) and the 1989 Loma Prieta earthquake (RM 6.9).

According to a 2014 analysis by the Working Group on California Earthquake Probabilities (WGCEP), an expert panel co-chaired by U.S. Geological Society seismologists, there is a 72 percent probability that an earthquake of magnitude 6.7 or greater will occur in the San Francisco Bay Area in the next

[36] Quantum Geotechnical, Inc., *Geotechnical Investigation on Proposed Residential Development The Annex at San Joaquin Street and Dalai Lama Drive, Richmond, California, for City Ventures*, Project No. G028.G, November 3, 2020.

30 years and a 20 percent probability that an RM 7.5 earthquake will occur (starting from 2014).[37] The WGCEP estimates there is a 14.3-percent chance of an RM 6.7 quake occurring on the Hayward fault in the next 30 years. It is therefore likely that a major earthquake will be experienced in the region during the life of the project that could produce strong seismic ground shaking at the project site.

The geotechnical investigation report prepared for the project identifies five active Quaternary faults located within 10 miles of the project site, including the Hayward, Wildcat, Moraga, Pinole, and Franklin faults.[38] A large earthquake centered on one of these faults or one of the other major faults in the region, such as the San Andreas Fault or Calaveras Fault, could cause severe ground shaking in the project vicinity. The geotechnical investigation report states that a peak ground acceleration of 0.854 $PGA_M$ could be experienced at the site during strong seismic shaking.[39]

Given the high magnitude of seismic ground shaking and related peak ground acceleration that could be experienced at the site, there is potential for a strong seismic event to result in severe damage or even structural failure of the proposed townhomes, with potential to severely injure or kill building occupants. However, in accordance with recent CEQA case law (e.g., *California Building Industry Association v. Bay Area Air Quality Management District* (Aug.12, 2016) 2 Cal.App.5th 1057), CEQA generally no longer considers an impact of the environment on a project to be a significant impact. Accordingly, this would be a ***less-than-significant impact***. However, pursuant to Chapter 12.44 of the Richmond Municipal Code, the project applicant has been required to submit a site-specific geotechnical report prepared by a geotechnical engineer that includes recommendations for site preparation and foundation design. The report prepared by Quantum Geotechnical, Inc. referenced above was submitted to the City in compliance with this requirement.

The geotechnical report includes recommendations for site preparation and grading, placement and compaction of engineered fill, construction of utility trenches, foundation design, parameters for slabs-on-grade and concrete flatwork, parameters for spread footings and pier footings, retaining walls, the northern sound wall, pavements, drainage, and more. It is recommended that the townhomes be supported on post-tensioned slabs-on-grade, provided the site is prepared in accordance with the grading recommendations provided in the geotechnical report. The maximum allowable bearing pressure at the base of the slab and for localized thickened footings should not exceed 2,000 pounds per square foot (psf) for dead plus sustained live loads. Installation of a moisture vapor retarder/barrier is recommended beneath all slabs-on-grade that will be covered by moisture-sensitive flooring materials such as vinyl, linoleum, wood, carpet, rubber, tile, adhesives, and other moisture-sensitive materials. Grading and foundation construction are to be observed by a soil engineer, with grading requirements verified and approved by the soil engineer.

The Richmond Building Division will ensure that the project design incorporates the recommendations in the geotechnical report. In addition, the Building Division will ensure that the project complies with the current California Building Standards Code, which includes detailed structural design requirements intended to provide adequate structural integrity to withstand the maximum credible earthquake and the associated ground motion acceleration. Compliance with the applicable building codes will maximize the structural stability of the proposed buildings and minimize the potential for damage and injury during a strong seismic event.

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[37] Edward H. Field and Members of the 2014 Working Group on California Earthquake Probabilities, U.S. Geological Survey, California Geological Survey, *UCERF3: A New Earthquake Forecast for California's Complex Fault System*, USGS Open File Report 2015-3009, 2015.

[38] Quantum Geotechnical, Inc., *op cit.*.

[39] *Ibid*.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *iii) Seismic-related ground failure, including liquefaction?* | ☐ | ☐ | ☐ | ☒ |

Explanation: Liquefaction occurs when clean, loose, saturated, uniformly graded, fine–grained soils are exposed to strong seismic ground shaking. The soils temporarily lose strength and cohesion, resulting in a loss of ground stability that can cause building foundations to fail. The geotechnical investigation report prepared for the project states that the potential for liquefaction at the site is "nil" because it is underlain by dense and very dense cohesionless sands and gravels.

Lateral spreading, another form of seismic ground failure, is generally associated with liquefaction; since there is virtually no potential for liquefaction at the site, it is assumed the potential for lateral spreading is very low to none. As noted in Section VII-a-ii, the geotechnical investigation report prepared for the project includes site and building foundation design recommendations that will ensure the structural stability of the proposed townhomes and pavements. There would be ***no impact*** from liquefaction or lateral spreading.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *iv) Landslides?* | ☐ | ☐ | ☐ | ☒ |

Explanation: A landslide is a slope failure created by down-slope slippage of a mass of earth or rock that typically occurs as a planar or rotational feature along single or multiple surfaces. Landslides can range from slow-moving, deep-seated slumps to rapid, shallow debris flows. The hazard is greatest on steep slopes with gradients of 15 percent or more, but can occur on shallower slopes with unstable soils, particularly when saturated.

The project site is essentially level, with minor variations in topography, but no slopes. Although there are some gentle slopes in the residential blocks south of the project site, there is virtually no landslide potential in these blocks, which are fully developed with homes and pavements. There are no steep slopes located in close proximity to the site. Consequently, the potential for landslides is non-existent. There would be ***no impact*** due to landslides.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Result in substantial soil erosion or the loss of topsoil?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Any construction project that exposes surface soils creates a potential for erosion from wind and stormwater runoff. The potential for erosion increases on large, steep, or windy sites; it also increases significantly during rainstorms. The project site is somewhat susceptible to erosion due to

its size and potential exposure to westerly winds, but the erosion potential is not unduly high. The current erosion potential on the eastern parcel is very low because it is surrounded by trees on all but the north side and the stockpiles of construction rubble and soil that occupy the interior of the site are covered with vegetation. With much of the western parcel covered in degraded pavements and disturbed vegetation, and with rows of trees on some sides providing wind block, the current erosion potential is fairly low, but once the site is cleared and graded for site development, the potential would increase. During storms, rainwater runoff from the site could introduce high sediment loads into downstream receiving waters.

Although the proposed project would occur on a level site, construction is expected to occur during the rainy season, increasing the potential for erosion at the site. In addition, approximately 4.74 acres of land would be disturbed, increasing the potential for exposure of soils to the erosional effects of wind and rain. Therefore, the potential for erosion during project construction would be fairly high and could result in a potentially significant impact on the environment. However, the implementation of the Erosion Control Plan required by Richmond Municipal Code Section 12.44.030(e), as discussed in more detail in Section X-a, below, would ensure that the project would have a ***less-than-significant impact*** due to erosion.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The potential for landslide is discussed in Section VII-a-iv, above. The potential for liquefaction and lateral spreading are addressed in Section VII-a-iii. The site is underlain by a surface layer of fill over native Holocene alluvial deposits comprised of moderately consolidated silty clays to dense sand and silty sand. The fill ranges in thickness from 4.5 feet to 8 feet. In addition, on the eastern parcel, there is additional fill in the form of debris stockpiles of varying thickness scattered across the parcel. These stockpiles are up to 7 feet high and contain sandy silt mixed with concrete debris, wood fragments, brick shards, and aggregate base rock. This parcel is underlain by native soil consisting of stiff silty clay and dense clayey sand. There is also a smaller debris stockpile on the central parcel with a height of approximately 6 feet. The underlying soils on this parcel consist of stiff silty to sandy clay.

Subsidence of land can occur when large amounts of groundwater have been extracted from certain types of rock, including fine-grained sediments. Substantial amounts of subsidence have occurred in California's Central Valley as a result of many years of pumping groundwater for agricultural irrigation, but this does not occur in the groundwater basin underlying the project site. The City of Richmond is underlain by the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin, which is managed by the East Bay Municipal Utility District (EBMUD). While EBMUD utilizes the groundwater basin in the South East Bay Plain Subbasin further south that underlies the cities of San Leandro and Hayward, primarily as a storage facility to be drawn on during drought conditions and recharged during normal rainfall years, the District does not extract groundwater from the East Bay Plain Subbasin for

its potable water supply.[40] Given this, it is assumed there is little to no potential for ground subsidence at the site. This is reinforced by the geotechnical investigation report for the proposed project, which concluded that due to the dense to very dense soils found on the site, the potential for dynamic compaction is minimal and is estimated to be less than ¼ inch. Furthermore, the geotechnical report does not identify a subsidence or collapse potential at the site.

No other types of seismically-induced ground failure were identified in the geotechnical investigation report, which concludes that there are no geologic hazards constraining the proposed project. As previously noted, the applicant will be required to implement the recommendations in the geotechnical report and comply with all applicable building codes and seismic requirements, which would ensure that the proposed townhomes would not be exposed to unstable ground that could result in structural failure. This would therefore be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Due to the clay content of the surficial soils on the site, which have Plasticity Index (PI) values ranging from 17 to 26, the geotechnical investigation determined that the site soils are moderately to highly expansive, and subject to heave and shrink movements with changes in moisture content that could affect their stability. The geotechnical report recommends that post-tensioned slab foundations for the proposed townhomes would be the most appropriate foundation system for the expansive soil conditions. The report also includes design recommendations for the placement, compaction, and moisture content of fill. Because the applicant will be required to implement the recommendations in the geotechnical report and comply with the site preparation, foundation, and structural design requirements of the California Building Code, including provisions for expansive soils, the project would not be subject to structural failure due to expansive soils. This would be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *e) 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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The project would utilize the existing sanitary sewer system that serves the project area; septic tanks or alternative wastewater disposal systems would not be required.

[40] East Bay Municipal Utility District, *WSMP 2040: Water Supply Management Program 2040 Plan*, Section 3.2: Summary of EBMUD's Water Supply and System, April 2012.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?* | ☐ | ☒ | ☐ | ☐ |

Explanation: Paleontological resources are the fossilized remains of vertebrate or invertebrate organisms from prehistoric environments found in geologic strata. They can include microfossils of microscopic plants and animals. They are valued for the information they yield about the history of the earth and its past ecological settings. They are most typically embedded in sedimentary rock foundations, and may be encountered in surface rock outcroppings or in the subsurface during site grading. Although CEQA does not define "a unique paleontological resource or site," the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).[41]

The Environmental Impact Report (EIR) for the *Richmond General Plan 2030* indicates that the project site is located in an area characterized by undivided Quaternary deposits that have a high potential for the presence of both vertebrate and invertebrate paleontological resources. The alluvial deposits overlying the Franciscan Complex were deposited by upland erosion and marine action during the post-glacial flooding of San Francisco Bay about 12,000 years ago.[42] Late Pleistocene and Holocene fossils have been recovered from marine sediments (older Bay mud) in Contra Costa County, including remains of petrified wood, marine mollusks and mammals, bony fishes, amphibians, reptiles, birds, a diversity of extinct land mammals such as ground sloths, mammoth, mastodon, deer, horse, camel, and bison, and microfossils such as radiolaria, foraminifera, diatoms, pollen, and spores.

In the Franciscan Complex that underlies the project site, most of the fossils that have been found are within radiolarian chert beds—a type of homogenous sedimentary rock—containing microfossils of radiolaria, which are silicon-based skeletons of single-celled planktonic marine organisms. Limestone nodules and concretions in Franciscan shales, and the shales themselves, often contain radiolaria, foraminifera (another single-celled marine organism), gastropods (snails), pelecypods (clams), and plant microfossils (pollen and spores).

The General Plan EIR identified a potentially significant impact to paleontological resources from development of sites that have high sensitivity for the presence of vertebrate and invertebrate paleontological resources (Impact 3.5-3). When new development is proposed for such sites, Mitigation Measure 3.5-3 requires an evaluation of potential impacts to paleontological resources by

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

[42] City of Richmond, *Richmond General Plan 2030 Draft Environmental Impact Report*, Section 3.5: Cultural Resources, February 2011.

a professional paleontologist. Accordingly, a paleontologist with Rincon Consultants, Inc. was retained by the City to conduct a paleontological resources assessment.[43]

The assessment consisted of a review of online databases containing paleontological collections, a review of existing geologic maps and paleontological locality data, and a review of primary literature regarding fossiliferous geologic units within the project site and vicinity. The assessment determined that the Holocene alluvial and bay mud deposits (Qa, Qbm) underlying the project area to depths of approximately 30 feet are too young (i.e., less than 5,000 years old) to preserve paleontological resources, and therefore have a low paleontological sensitivity. Were subsurface disturbance to extend below 30 feet in depth, which is not required or proposed for the project, it could encounter sedimentary deposits that may grade downward into more fine-grained deposits of early Holocene to late Pleistocene age that could preserve fossil remains. Quaternary old (Pleistocene) alluvial sediments (e.g., Qoa) have a well-documented record of abundant and diverse vertebrate fauna throughout California. Localities in these sediments have produced fossil specimens of mammoth (*Mammuthus columbi*), horse (*Equus*), camel (*Camelops*), and bison (*Bison*), as well as various birds, rodents, and reptiles. Quaternary old alluvial (i.e., Qoa) deposits are assigned a high paleontological sensitivity.

The paleontological resources assessment states that while accurately assessing the boundaries between younger and older units within the project area is generally not possible without site-specific stratigraphic data, the conservative estimates of the depth at which paleontologically sensitive units may occur reduces the potential for impacts to paleontological resources. Based on the findings of the site-specific geotechnical investigation and existing site conditions, Rincon estimates the transition between younger and older units in the project area is likely to occur at depths below 30 feet below ground surface. Since grading and excavation required for construction of the proposed project would not extend to this depth, the potential for encountering fossil resources during project-related ground disturbance is low. Nonetheless, the paleontological resources assessment did not rule out the possibility for unique paleontological resources to be encountered during project construction. Were such resources to be present, they could be damaged, destroyed, or lost during subsurface disturbance of the site. This would be a ***potentially significant impact***. Implementation of the following mitigation measures would reduce this potential impact to less than significant:

**Mitigation Measure GS-1**: Prior to any project ground disturbance, a Worker's Environmental Awareness Program (WEAP) shall be prepared and used to train all site personnel prior to the start of work. (Implementation of this mitigation measure can be coordinated and consolidated with implementation of Mitigation Measure CUL-1.) The WEAP training shall include at a minimum the following information:

- Review of local and State laws and regulations pertaining to paleontological resources.
- Types of fossils that could be encountered during ground disturbing activity.
- Photos of example fossils that could occur on site for reference.
- Instructions on the procedures to be implemented should unanticipated fossils be encountered during construction,

[43] Rincon Consultants, Inc., *Paleontological Resource Assessment for the Richmond Annex Townhomes Project in the City of Richmond, Contra Costa County, California*, Project Number 21-11502, May 26, 2021.

including stopping work in the vicinity of the find and contacting a qualified professional paleontologist.

**Mitigation Measure GS-2:** If any paleontological resources—such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions—are encountered during site grading or other construction activities, all ground disturbance within 100 feet of the find shall be halted until the services of a qualified paleontologist can be retained to identify and evaluate the scientific value of the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Any further mitigation measures recommended by the paleontologist shall be implemented and construction shall not resume in the vicinity of the find until the paleontologist has authorized the resumption of work. Significant paleontological resources shall be salvaged and deposited in an accredited and permanent scientific institution, such as the University of California Museum of Paleontology (UCMP).

## VIII. 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Greenhouse gases (GHGs) refer to gases that trap heat in the atmosphere and contribute to global warming. The primary GHGs are carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor ($H_2O$). The majority of GHG emissions in the Bay Area come from transportation (39.7 percent), followed by industrial/commercial sources (35.7 percent) and electricity generation (14.0 percent). Construction equipment and other off-road equipment contribute 1.5 percent of the total GHG emissions.[44]

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and

[44] Bay Area Air Quality Management District, *Bay Area Emissions Inventory, Summary Report: Greenhouse Gases, Base Year 2011*, Table F: 2011 Bay Area GHG Emissions by Sector, updated January 2015.

had a small cooling effect afterward.[45] After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. The IPCC is now 95 percent certain that humans are the main cause of current global warming.[46] GHGs naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHGs occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. While the presence of the primary GHGs in the atmosphere are naturally occurring, $CO_2$, $CH_4$, and $N_2O$ are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of $CO_2$ are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices, coal mines, and landfills.

$CO_2$ is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of $CO_2$. $CH_4$ and $N_2O$ are substantially more potent GHGs than $CO_2$, with GWP of 28 and 265 times that of $CO_2$, respectively.[47]

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons (MT) of $CO_2$ equivalents ($CO_2e$). $CO_2e$ are calculated as the product of the mass emitted of a given GHG and its specific GWP. While $CH_4$ and $N_2O$ have much higher GWP than $CO_2$, $CO_2$ is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in $CO_2e$.

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in $CO_2$ emissions (and thus substantial increases in atmospheric concentrations of $CO_2$). In pre-industrial times (c. 1860), concentrations of atmospheric $CO_2$ were approximately 280 parts per million (ppm). By February 2021, atmospheric $CO_2$ concentrations had increased to 417 ppm, 49 percent above pre-industrial concentrations.[48]

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[45] IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Accessed March 23, 2021 at: https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf.

[46] IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Accessed March 23, 2021 at: https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf.

[47] IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Accessed March 23, 2021 at: https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf.

[48] National Oceanographic and Atmospheric Administration - Earth System Research Laboratory, Recent Monthly Mean CO2 at Mauna Loa, Accessed March 23, 2021 at: http://www.esrl.noaa.gov/gmd/ccgg/trends/.

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.[49]

In 2017 BAAQMD established separate thresholds of significance for operational GHG emissions from stationary sources (such as generators, furnaces, and boilers) and non-stationary sources (such as on-road vehicles). Because no threshold has been established for construction-related emissions, the operational emissions thresholds are applied in this analysis. The threshold for stationary sources is 10,000 metric tons of $CO_2e$ per year (i.e., emissions above this level may be considered significant). For non-stationary sources, three separate thresholds were established:

- Compliance with a Qualified Greenhouse Gas Reduction Strategy (i.e., if a project is found to be out of compliance with a Qualified Greenhouse Gas Reduction Strategy, its GHG emissions may be considered significant); or
- 1,100 metric tons of $CO_2e$ per year (i.e., emissions above this level may be considered significant), representing a bright line threshold; or
- 4.6 metric tons of $CO_2e$ per service population per year (i.e., emissions above this level may be considered significant), representing an efficiency threshold. Service population is the sum of residents/students/employees expected for a development project.

These GHG significance thresholds were established to meet the State's GHG reduction goals through 2020.[50] At this time, BAAQMD does not have a recommended post-2020 GHG significance threshold.

Although BAAQMD has not yet published quantified thresholds for post-2020 yet, this assessment uses a "Substantial Progress" efficiency metric of 660 metric tons of $CO_2e$ per year, representing a bright line threshold and 2.8 metric tons of $CO_2e$ per service population per year based on the GHG reduction goals of EO B-30-15, which established a California GHG reduction target of 40 percent below 1990 levels by 2030. The service population metric of 2.8 is calculated for 2030 based on the 1990 GHG emissions and the projected 2030 statewide population and employment levels.[51] The 2030 bright-line threshold is a 40-percent reduction of the 2020 1,100 MT $CO_2e$/year threshold or 660 MT $CO_2e$/year.

The Richmond CAP and State goals are to reduce GHG emissions by 40 percent below 1990 levels by 2030 and by 80 percent below 1990 levels by 2050. The proposed project would be required to be consistent with these goals to have a less-than-significant impact on GHG emissions. Therefore, the proposed project would result in a significant impact if it would be in conflict with the City's CAP and State GHG emission goals, which is a Qualified Greenhouse Gas Reduction Strategy.

CalEEMod was used to quantify GHG emissions associated with construction activities, as well as long-term operational emissions produced by motor vehicles; electricity use for space and water

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[49] California Environmental Protection Agency, Final Climate Action Team Report to the Governor and Legislature, March 2006, Accessed March 23, 2021 at: http://documents.cityofdavis.org/Media/CityCouncil/Documents/PDF/CDD/Planning/Subdivisions/West-Davis-Active-Adult-Community/Reference-Documents/CalEPA_2006_Climate_Action_Team_Report_to_Gov-and_Leg.PDF.

[50] AB 32 required that Statewide GHG emissions be reduced to 1990 levels by 2020.

[51] Dave Vintze, Bay Area Air Quality Management District, CLE International 12th Annual Super Conference CEQA Guidelines, Caw Law and Policy Update. December 12, 2016.

heating, appliances, EV charging, and other purposes; and landscape maintenance equipment.[52] CalEEMod incorporates GHG emission factors for the central electric utility serving the Bay Area and mitigation measures based on the California Air Pollution Control Officer's Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures*[53] and the *California Climate Action Registry General Reporting Protocol*[54].

Although default rates for energy consumption were assumed in the model, emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric (PG&E) utility's projected $CO_2$ intensity rate.[55] This projected $CO_2$ intensity rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641 pounds of $CO_2$ per megawatt of electricity produced. The projected $CO_2$ intensity rate of 290 pounds of $CO_2$ per megawatt of electricity produced for 2025 (the first full year of project operations) was instead used, based on guidance provided by PG&E.[56] CalEEMod also accounted for the transportation benefits of the proposed project, since the project site is in an urban setting within 1 mile of the El Cerrito Plaza BART Station.

In addition, Richmond's Energy Reach Code, which requires newly constructed buildings to be all-electric, would apply to the proposed project except for non-electric cooking appliances and fireplaces (although the proposed project would not include natural gas).

The proposed project's estimated construction and operational GHG emissions are presented in Table GHG-1. As indicated, 30-year amortized annual construction-related GHG emissions would be approximately 42.6 metric tons of $CO_2e$. As previously noted, there is no BAAQMD CEQA significance threshold for construction-related GHG emissions. The GHG construction and project operational emissions would be 527 and 560 metric tons per year (based on 100 percent and 50 percent solar generation rates, respectively)[57], which is below the 2030 bright line GHG significance threshold of 660 metric tons per year. The GHG construction and project operational emissions would be 1.8 and 2.0 metric tons per year per service population (per CalEEMod as 286 residents) [58] (based on 100 percent and 50 percent solar generation rates, respectively), which is below the 2030 GHG significance threshold of 2.8 metric tons per year per service population. Therefore, the proposed project would have a ***less-than-significant impact*** from its emissions of GHGs.

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[52] The electricity generation from solar is expected to be 100 percent. However, given individual electrical usage and weather conditions, electricity generation from solar may be less than 100 percent. Therefore, a portion of the electrical usage is presumed to be from the electrical grid.

[53] California Air Pollution Control Officer's Association Quantifying Greenhouse Gas Mitigation Measures, August 2010, Accessed March 23, 2021 at: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

[54] California Climate Action Registry General Reporting Protocol, Reporting Entity-wide Greenhouse Gas Emissions, April 2008, Accessed March 23, 2021 at: http://www.climateactionreserve.org/wp-content/uploads/videos/GRP_V3_April percent202008_FINAL.pdf.

[55] As stated previously, most of the electrical usage would be from onsite solar panels. However, some electrical usage may come from the electrical grid.

[56] PG&E, Greenhouse Gas Emission Factors: Guidance for PG&E Customers, November 2015, Accessed March 23, 2021 at: https://www.pgecorp.com/corp_responsibility/reports/2019/en02_climate_change.html and https://www.ca-ilg.org/sites/main/files/file-attachments/ghg_emission_factor_guidance.pdf.

[57] The electricity generation from solar is expected to be 100 percent. However, given individual electrical usage and weather conditions, electricity generation from solar may be less than 100 percent. A value of 50 percent electrical usage from the grid would be a conservative estimate as it would likely be closer to 0 percent (i.e., mostly from onsite solar panels).

[58] California Department of Finance for the City of Richmond specifies 2.94 persons per household, as of January 1, 2020.

**Table GHG-1**
**Estimated Greenhouse Gas Emissions (metric tons)**

| Source | Proposed Project Annual $CO_2e$ Metric Tons (100% Solar) | Proposed Project Annual $CO_2e$ Metric Tons (50% Solar) |
|---|---|---|
| **Construction (30-year amortized)** | **42.6** | **42.6** |
| **Operations** | | |
| Area Sources | 1.24 | 1.24 |
| Energy | 0 | 32.5 |
| Mobile | 445 | 445 |
| Solid Waste | 23.1 | 23.1 |
| Water | 15.5 | 15.5 |
| **Total Project Emissions** | **527** | **560** |
| *2030 Bright Line Significance Threshold* | 660 | 660 |
| Potentially Significant (Yes or No)? | No | No |
| **Total Project Emissions Per Resident** | **2.1** | **2.2** |
| *2030 Service Population Threshold* | 1.8 | 2.0 |
| Potentially Significant (Yes or No)? | No | No |

*SOURCE: CARB CalEEMod Version 2016.3.2.*

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| b) *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There are a variety of Statewide plans, policies, and regulations that have been adopted since 2002 for the purpose or reducing GHG emissions, as well as the City's *Climate Action Plan* (CAP) adopted in 2016.[59] Most notably, California passed landmark climate change legislation with Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, which requires Statewide GHG emissions to be reduced to 1990 levels by 2020, a reduction of approximately 15 percent below emissions expected under a "business as usual" scenario. This goal was initially established by former

[59] City of Richmond, *City Climate Action Plan*, Adopted October 2016.

Governor Arnold Schwarzenegger's issuance in 2005 of Executive Order S-3-05, which also set a target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

The State's GHG reduction goals were further focused by Executive Order B-30-15, issued on April 29, 2015 by then-Governor Edmund G. Brown. This order established a mid-term GHG Statewide reduction goal of 40 percent below 1990 levels by 2030. This requirement was codified by the Legislature with the 2016 passage of Senate Bill (SB) 32. The California Air Resources Board (CARB) has developed a Scoping Plan that describes the approach California will take to reduce GHGs to achieve the reduction goals established by these executive orders and legislative acts. The third update to the Scoping Plan, adopted by CARB in late 2017, notes that local governments are essential partners in achieving California's GHG reduction goals.[60]

State law allows cities to analyze and mitigate significant GHG emissions in a CAP or GHG reduction plan that meets certain requirements under CEQA. Later project-specific CEQA documents may tier from and/or incorporate the CAP or GHG reduction plan by reference.[61] In October 2016, the City Council adopted a Climate Action Plan (CAP) to reduce Greenhouse Gas (GHG) emissions to achieve statewide reduction targets and reduce the societal and environmental risks associated with climate change. The Richmond CAP serves as the roadmap for the City to reduce GHG emissions, create jobs, and prepare for the impacts of climate change on public health, infrastructure, the economy, ecosystems, and public spaces in the City. The CAP builds on the goals and policies in the City's General Plan and the Health in All Policies Strategy to further the City's efforts to build health equity through the reduction of local GHG emissions, and to simultaneously ensure that the community is well prepared for the impacts of climate change.

The CAP includes an inventory of the City's emissions, establishes an emissions reduction target, and identifies City and community actions to reduce emissions. The City revised its existing 2005 GHG emissions inventory (baseline) with better transportation and solid waste data and compiled a 2012 inventory update that allows the City to start assessing emissions trends over time.

The City's baseline inventory shows that industries, businesses, and residents in the City generated approximately 5.6 million metric tons (MT) of $CO_2e$ from a variety of sources. Of the sources in this total, the largest contributors are large industrial uses that are regulated by AB 32, which account for 88 percent of GHG emissions in the City.[62] In 2012, the City generated approximately 4.9 million metric tons of $CO_2e$ as GHG emissions decreased approximately 13 percent from 2005 levels due to AB32 regulations on large industrial energy uses. A recent study of consumption-based GHG Inventories of San Francisco Bay Area neighborhoods, cities, and counties indicates that the City of Richmond has the lowest carbon footprint per household (37 metric tons of $CO_2e$) compared to the 40 other San Francisco Bay Area municipalities analyzed in the study.[63]

In 2013 the City of Richmond joined Marin Clean Energy (MCE) to increase renewable energy choices for local businesses and residents. A "Community Choice Aggregation" program, MCE procures electricity from renewable sources – solar, wind, bioenergy, geothermal, and small hydro – and then partners with PG&E to deliver electricity to homes and businesses.

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[60] California Air Resources Board, *California's 2017 Climate Change Scoping Plan*, November 2017.

[61] California Natural Resources Agency, Governor's Office of Planning and Research, *CEQA Guidelines*, Section 15183.5, as amended December 28, 2019.

[62] City of Richmond, General Plan 2030, Energy and Climate Change Element, Adopted April 25, 2012.

[63] Jones, Christopher and Kammen, Daniel, *A Consumption-Based Greenhouse Gas Inventory of San Francisco Bay Area Neighborhoods, Cities and Counties*, December 15, 2015, Accessed March 23, 2021 at: http://escholarship.org/uc/item/2sn7m83z.

The City of Richmond's *Climate Action Plan* is a roadmap for how the City will reduce energy consumption and GHG emissions to meet State GHG emissions targets (AB 32 and SB 32). Since the proposed project will be operational post 2020, the principal State plan and policy adopted for the purpose of reducing GHG emissions is SB 32. The quantitative goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Statewide plans and regulations such as GHG emissions standards for vehicles and the low-carbon fuel standard are being implemented at the statewide level, and compliance at the specific plan or project level is not addressed.

The assumption is that AB 32 and other regulations will be successful in reducing GHG emissions and reducing the cumulative GHG emissions statewide. The State has taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG. Therefore, the proposed project would result in a significant impact if it would be in conflict with the City's CAP and/or State regulations such as AB 32 and SB 32. The proposed project has been reviewed relative to the City's CAP and it has been determined that the proposed project would not conflict with the City's CAP.

The proposed project would implement measures found in the City's CAP and General Plan as part of CalGreen, including providing solar all electric power with no natural gas, pre-wired electric vehicle (EV) charging, high-efficiency light-emitting diode (LED) lighting, dual-glazed Milgard windows with energy efficient ultraviolet coating, energy-efficient smart NEST thermostat, and energy-efficient radiant barrier roof sheathing to reduce air quality impacts and GHG emissions.

The proposed project would include sidewalks along the internal street for pedestrians. Residents would have access to pedestrian facilities throughout the proposed project and would have access to nearby pedestrian facilities. The project would be required to comply with Title 24 and CalGreen codes. Additionally, the project's future residents would have access to the San Francisco Bay Trail, which runs adjacent to the project site to the west, approximately 2,000 feet away. The proposed project is located within 1 mile of a major transit stop (i.e., the El Cerrito Plaza BART Station) and is an infill development, which would also contribute to the reduction of GHG emissions.

Since the proposed project would not conflict with the City's CAP and is below the BAAQMD's GHG efficiency threshold, the project would not conflict with State regulations for reducing GHG emissions. Therefore, the proposed project would have a ***less-than-significant impact*** related to a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

## IX. 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The proposed project would not involve the routine transport, use, or disposal of hazardous materials. While construction of the project could entail transport and use of hazardous materials for equipment operation and maintenance, such as motor oil, transmission fluid, or solvents, such use would not be in quantities large enough to pose an environmental hazard, nor would it constitute routine, ongoing use. Such use is typical of most construction projects and does not

represent a significant hazard. Once construction is complete and the project is occupied, residential occupants of the site would be expected to store and use small containerized quantities of hazardous household, outdoor landscape care, and automotive products of a wide variety. This type of usage is typical of all residential development, and would not constitute a significant hazard to the public or the environment. The project would have a ***less-than-significant impact*** from the transport, use, or disposal of hazardous materials.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *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?* | ☐ | ☒ | ☐ | ☐ |

Explanation: As discussed in Section IX-a above, the proposed project would not introduce hazardous materials beyond those generally found within residential uses, including containerized household, yard care, and automotive products. To evaluate the possible presence of hazardous materials within the soil or groundwater underlying the site, a Phase I Environmental Site Assessment (ESA) was performed for the project by Santec Consulting Services, the results of which are summarized herein.[64] A Phase I ESA is intended to identify recognized environmental conditions on the site, including the presence or likely presence of any hazardous substances that could create a significant hazard to the public or the environment, whether through an existing release, past release, or threat of a release into structures, into the ground, or into surface or groundwater.

### *Previous Use of the Project Property*

Based on a review of historic City directories, historical fire insurance maps, topographic maps dating to 1899, historical aerial photographs dating to 1939, and other historical reports for the property, the Phase I ESA determined that the project site consisted of marshland until at least 1939. By 1946 the land had been reclaimed and appeared to be used for parking and storage. The adjacent railroad tracks to the west had been developed by this time. By 1950 there were storage containers on the western parcel and the area to the south of the site was partially developed with residential buildings. With the exception of some large rectangular structures on the western edge of the site, the property was largely vacant during the 1960s. By 1974, the western portion of the site was utilized for storage of soil stockpiles and construction materials and for vehicle parking by the adjacent business to the north. A number of small structures occupied the southwestern portion of the site by 1993, while the central and eastern parcels were vacant land. Satellite dishes and small structures occupied the western parcel in aerial photographs from 1998 to 2016, when the central parcel was used for parking and the eastern parcel remained vacant. At the time the Phase I ESA in August 2020, there were no structures on the project other than concrete pads and a concrete drainage ditch on the western parcel, which was also crossed by a low-hanging electrical line.

### *Hazardous Materials Sites On Or In the Vicinity of the Project*

The western project parcel was previously utilized for various satellite/space and global network companies, and included diesel fuel above-ground storage tanks to support fuel backup generators and lead acid batteries. As part of the Phase I ESA, Santec reviewed over 90 publicly available local,

[64] Santec Consulting Services, Inc., *Phase I Environmental Site Assessment: Richmond B & C, APNs 507-251-015-8, 507-251-021-6, and 507-251-020-8, Richmond, California*, Project No. 185804875, August 10, 2020.

State, and federal environmental databases to identify hazardous waste and hazardous materials release sites on the site or in the project vicinity. The project property was identified as ABS-CBN International in multiple databases, but there are no reported violations associated with the environmental database listings. The project property was also identified as Loral Skynet SFIG in the California Underground Storage Tank (CA UST) environmental database, and as Argo Communications Earth Sta in the Statewide Environmental Evaluation and Planning System (CA SWEEPS UST) and Facility Inventory Database (CA FID UST) environmental databases.

Santec reviewed records of the Contra Costa County Health Services Hazardous Materials Programs (CCHSHMP) during the Phase I ESA and determined that there was previously a 550-gallon diesel underground storage tank (UST) on the western project parcel that was removed. One soil sample was collected from the tank excavation and a four-point composite sample was collected from the stockpile during the tank removal, and the soil samples were analyzed at a State-certified laboratory. The analytical results indicated that the soil samples did not have any detections above the laboratory limit for total petroleum hydrocarbons as diesel (TPH-d) or benzene, toluene, ethylbenzene, xylenes, or methyl tert-butyl ether (MTBE). Consequently, CCHSHMP issued a closure letter on October 4, 2002.

According to the California Hazardous Material Incident Report System (CA CHMIRS) environmental database listing, there was a release of 235 gallons of mineral oil from a transformer on the western parcel on June 11, 2019, when copper was stolen from a pad-mounted transformer. Because there is a lack of any closure documentation for this release, the Phase I ESA recommended performing a Phase II ESA subsurface investigation to verify there is no residual contamination above risk-based screening levels as a result of this spill. Given the proposed residential development of the site, Stantec also recommended collecting soil vapor samples in the vicinity of the former UST to verify no impact exists above risk-based screening levels, despite the prior closure letter from CCHSHMP. A Phase II ESA was subsequently conducted; the results are discussed below.

The Phase I ESA included a reconnaissance of the project property by a Registered Environmental Assessor (REA). Because there are currently no buildings on the property, the reconnaissance was limited to exterior observations. No pits, ponds, lagoons, stained soil or pavement, stressed vegetation, waste collection areas, potential fill areas, wastewater, illegal stormwater disposal, wells, septic systems, or other potential indicators of a Recognized Environmental Condition (REC) were observed on any of the project parcels. No fill pipes, vent pipes, dispensers, surface patches, surface stains, or other visible evidence that would indicate the presence of current or former USTs or above-ground storage tanks (ASTs) were observed during the site reconnaissance. A 35-foot-long and 1-foot-deep drainage sump was observed on the western parcel, but no staining around the drain was observed.

The results of the environmental database search conducted as part of the Phase I ESA revealed that the adjacent property to the north of the project site was listed on a number of regulatory databases as a result of multiple hazardous waste violations. The facility was identified as Former Building Materials Unlimited Inc., a 12-acre industrial property with a former waste oil UST in the western corner. When the 5,000-gallon waste oil UST was removed on April 12, 1999, hydrocarbon contamination was encountered in the soil and groundwater at the site. Additional excavation and sampling were performed under the oversight of CCHSHMP. On September 20, 2004, CCHSHMP determined that the low levels of hydrocarbons in soil and groundwater at the facility do not pose a threat to human health or the environment, and the facility was granted low-risk closure. The facility also received closure from the Regional Water Quality Control Board (RWQCB) on November 1, 2010. No other hazardous materials sites were identified in proximity to the project site with the potential to represent an REC for the project site (i.e., pose a hazardous materials threat to the project).

The Phase I ESA concluded that there are no RECs on the eastern or central parcel, but identified the following RECs on the western parcel:

- **Adjacent Railroad Tracks.** The presence of railroad tracks adjacent to the west of the property can be a potential concern due to the possible historical use of heavy metal-containing herbicides used to prohibit the growth of weeds. Accordingly, Stantec recommended the collection of soil samples for chemical analysis to determine if heavy metals are present at levels that represent a REC or that are of concern to residential development.
- **Former UST.** Although the 550-gallon diesel former UST removed from the property in 2002 was given regulatory closure, no soil vapor samples have been collected around the former UST. Given the proposed change in development to residential use, Stantec recommended collecting soil vapor samples in the vicinity of the former UST to determine whether impacts are present at levels above risk-based screening levels.
- **Historical Operations.** Based on Stantec's review of historical documents, the western parcel has been used in the past for various satellite/space and global network companies, which indicate the potential for historical use and storage of hazardous materials. Given the proposed change in development to residential use, Stantec recommended collecting soil and soil vapor samples throughout the western parcel, including near the extant 35-foot drain, to verify no contamination exists above risk-based screening levels.
- **Historical Transformer Release.** Due to the lack of any closure documents for the release of 235 gallons of mineral oil from a transformer on June 11, 2019, Stantec recommended collection and analysis of soil samples to verify no impact exists above risk-based screening levels.
- **PCB Impacts to Soil.** Stantec was provided with excerpts of a Phase I ESA for the property prepared by Basic Environmental in 2017. The report stated that groundwater was sampled from three wells on the western parcel and that no volatile organic compounds (VOCs), heavy metals, polychlorinated biphenyls (PCBs), or base neutrals were detected in the three wells. However, PCBs and certain metals were detected in soil above screening levels. Because it was not clear where on the site the samples were collected from, Santec recommended these analytes be included in the list of analytes tested for on the property in connection with the recommended Phase II subsurface investigation.

### *Phase II Environmental Site Assessment*

In September 2020, Santec Consulting Services completed a Phase II ESA of the western parcel, performing all of the analysis recommended in the Phase I ESA summarized above.[65] Santec advanced 11 soil borings at strategic locations on the western parcel, using a combination of hand auger borings and borings performed by a direct push testing (DPT) rig. The borings were advanced to depths ranging from 3 feet to 15 feet below the ground surface (bgs) at the locations shown on Figure HAZ-1. Soil samples were collected from each boring for field screening with a photoionization device (PID), lithologic description, and potential chemical analysis. In addition, probes were installed in seven of the borings (SB-1, SB-2, and HA-3 through HA-7) to collect soil vapor samples. The soil and soil vapor samples were submitted to testing at a State-certified laboratory for analysis.

Soil Sample Results

The results in all of the soil samples were Non-Detect (i.e., below laboratory detection limits) for gasoline-range organics (GRO). In eight of the samples concentrations of diesel-range organics (DRO) were only reported at low concentrations ranging from 3.2 to 94 milligrams per kilogram (mg/Kg); the highest concentration was found in the sample from boring HA-9. These concentrations

[65] Santec Consulting Services, Inc., *Phase II Environmental Site Assessment Report: APNs 507-251-021-6, and 507-251-020-8, 2301 Columbia Avenue, Richmond, California*, Project No. 185804875, September 9, 2020.

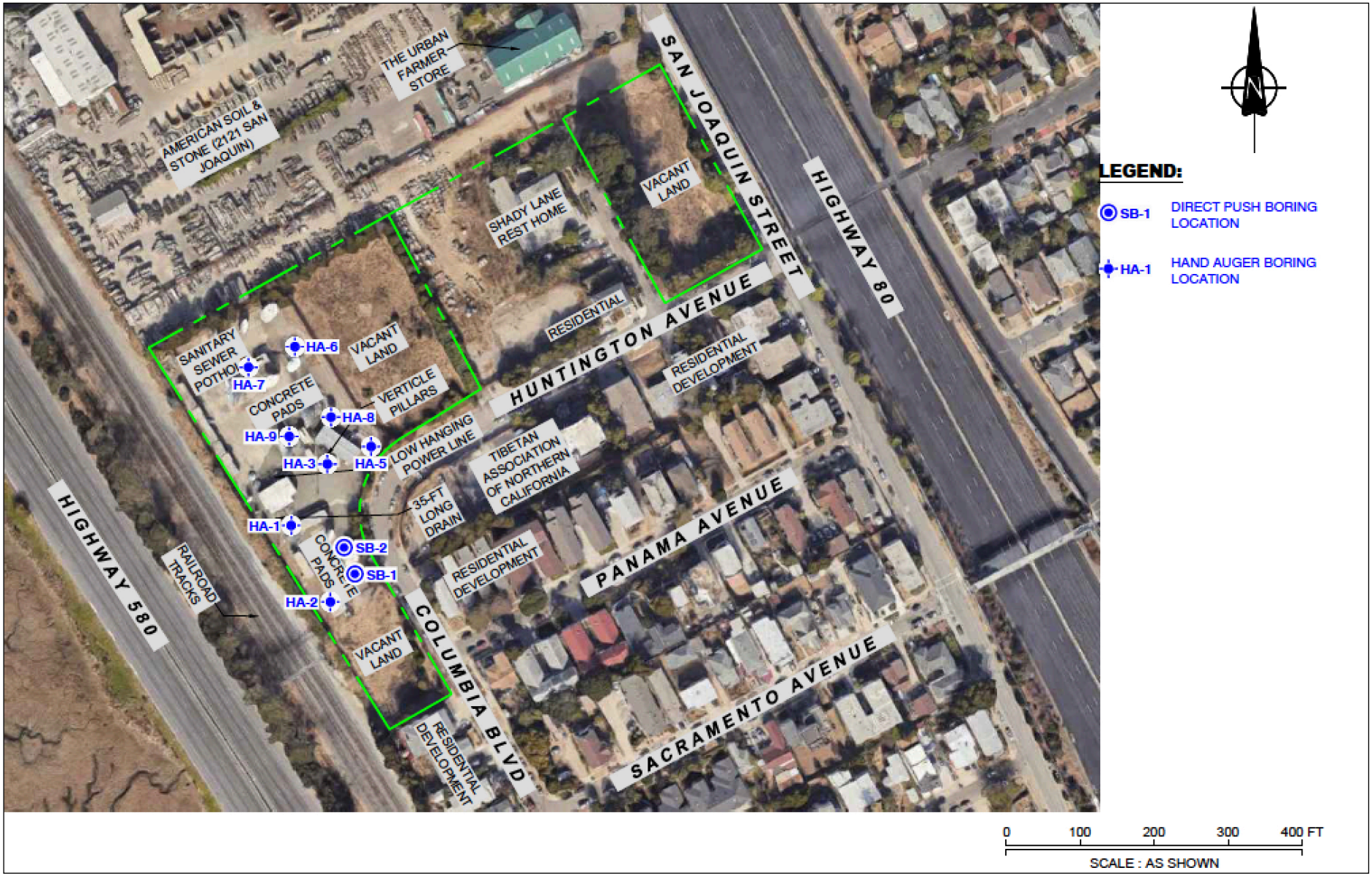



**Figure HAZ-1**

Soil Boring Locations on Western Parcel

Source: Stantec Consulting Services, Inc., 2020

are well below the Environmental Screening Level (ESL) of 260 mg/Kg established by the San Francisco Bay Regional Water Quality Control Board (RWQCB).

Oil-range organics (ORO) were reported in all analyzed soil samples at concentrations ranging from 3.2J mg/Kg up to 2,100 mg/Kg,[66] with the highest concentration reported in sample HA-6-5. Only one of the 13 analyzed samples exceeded the ESL of 1,200 mg/Kg (sample HA-6-5), indicating a limited extent of soil impact.

No VOCs were reported above laboratory reporting limits in any analyzed soil samples. Although a trace detection of toluene was reported in one soil sample at 0.60J mg/Kg, Santec concluded that this was an anomaly, and not indicative of a significant impact.

Lead was reported at concentrations ranging from 5.3 mg/Kg to 25 mg/Kg in five soil samples, including the two samples collected near the railroad tracks. However, the reported concentrations are consistent with typical naturally-occurring regional background levels and are well below the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Note 3 screening level of 80 mg/Kg.

Arsenic was reported at concentrations ranging from 2.2J mg/Kg up to 4.8 mg/Kg in the soil samples, including the two taken near the railroad tracks. The reported concentrations are well within typical naturally-occurring regional background concentrations, which range up to 12 mg/Kg.

Beryllium was reported at concentrations ranging from 0.29 J mg/Kg up to 2.3 mg/Kg. The reported concentrations are also consistent with typical naturally-occurring regional background levels and are well below both the DTSC HERO Note 3 screening level of 16 mg/Kg and the EPA Region 9 Regional Screening Level (RSL) of 160 mg/Kg.

Nickel was reported at concentrations ranging from 9.1 mg/Kg up to 100 mg/Kg. Again, these concentrations are consistent with naturally-occurring regional background levels and are well below both the DTSC HERO Note 3 screening level of 820 mg/Kg and the EPA Region 9 RSL of 1,500 mg/Kg.

The PCB Aroclor 1254 was reported in two of the five analyzed samples at concentrations of 85 mg/Kg and 150 mg/Kg, respectively. The reported concentrations are below the DTSC HERO Note 3 and EPA Region 9 RSL for this contaminant of 240 mg/Kg. No other PCBs were reported above laboratory reporting limits (i.e., the results were reported as non-detect in the other analyzed samples).

Soil Vapor Results

Soil vapor probes were installed at a depth of 5 feet bgs in borings SB-1, SB-2, and HA-3 through HA-7 and soil vapor samples were collected in accordance with the methods and procedures outlined the *Advisory – Active Soil Gas Investigations* (July 2015) prepared by the DTSC and California Environmental Protection Agency (CalEPA). The samples were collected a minimum of 48-hours after installation, in order to allow for equilibration. The soil vapor samples were analyzed by a State-certified laboratory, managed under strict chain-of-custody.

Volatile organic compounds were detected in most of the soil vapor samples, but not at concentrations indicating a hazard risk. Benzene was reported in three of the seven analyzed samples at concentrations ranging from 11 micrograms per cubic meter (µg/$m^3$) to 40 µg/$m^3$, with the highest concentrations reported in sample HA-7-5. The reported benzene concentrations were well within the DTSC risk-based screening level of 97 µg/$m^3$, based on an attenuation factor of 0.001. Chloroform

[66] The concentrations reported with a "J" denote estimated concentrations reported between the method detection limit (MDL) and the reporting limit (RL).

was reported in five of the seven samples at concentrations ranging from 5 µg/$m^3$ up to 97 µg/$m^3$, with the highest concentration reported in sample SB-1-5. The reported chloroform concentrations were also under the risk-based screening level established by DTSC of 120 µg/$m^3$, based on an attenuation factor of 0.001 (, 2011). The Phase II ESA noted that chloroform is a common artifact of drinking water disinfection.

Tetrachloroethylene (PCE) was reported in six of the soil vapor samples at concentrations ranging from 6.7 µg/$m^3$ to 44 µg/$m^3$, with the highest concentration reported in sample HA-6-5. Two of the samples (HA-3-5 and HA-6-5) exceed the DTSC HERO Note 3 screening level based on an attenuation factor of 0.03 of 15.3 µg/$m^3$, but are below the risk-based screening level of 460 µg/$m^3$ based on an attenuation factor of 0.001. Numerous other VOCs, including carbon disulfide, ethylbenzene, hexane, toluene, xylenes, 1,2,4 and 1,3,5-trimethylbenzene, TCE, cis-1,2-DCE, tert-butyl alcohol, 2-proponal, acetone, and 4-ethyltoluene, were reported at low sporadic concentrations in analyzed samples. All reported concentrations were reported below applicable screening levels, where established.

Based on the results of the soil vapor testing, the Phase II ESA concluded that the reported chemical concentrations—all below the current DTSC risk-based screening levels, based on an attenuation factor of 0.001 for future residential construction—are not indicative of any significant source of contamination at the project site. Based on the current DTSC guidance and the results reported in the Phase II ESA, Stantec does not anticipate any regulatory requirements for site mitigation, or recommend use of any engineering controls, such as vapor barriers for the planned townhomes.

The slightly elevated level of total petroleum hydrocarbons (TPH) as ORO found in the soil sample collected from boring HA-6 demonstrated minor contamination that Stantec believes is very limited in extent, and that less than 100 cubic yards would need to be removed to reduce TPH concentrations below screening levels. Nonetheless, given the proposed residential use of the site and the recorded ORO concentration above the residential ESL, left unaddressed, this contaminated soil could pose a threat to the health and safety of construction workers and future project residents, which would be a ***potentially significant impact***. Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

**Mitigation Measure HAZ-1:** Prior to the issuance of a grading permit, the project sponsor shall retain the services of a qualified environmental professional to excavate and properly dispose of the soil with elevated levels of total petroleum hydrocarbons (TPH) encountered in boring HA-6 during the Phase II Environmental Site Assessment conducted by Santec Consultants in September 2020. A Site Management Plan (SMP) shall be prepared by a Professional Geologist, Professional Engineer, or Certified Engineering Geologist to govern construction work at the project site. The SMP shall establish management practices for handling contaminated soil (groundwater is not expected to be encountered) during project construction, including proper offsite disposal. A copy of the SMP shall be provided to all construction contractors prior to the initiation of work at the site and construction contracts shall require all contractors to adhere to the provisions of the SMP.

The SMP shall include the following provisions, as well as any other requirements deemed appropriate by the qualified environmental professional:

- Establish procedures for sampling and testing site soils to ensure construction workers are not exposed to hazardous

levels of residual petroleum hydrocarbons and/or volatile organic compounds (VOCs).

- Establish contingency measures to be followed if soils with contaminant levels in excess of the applicable Environmental Screening Levels (ESLs) for residential use established by the RWQCB are encountered. These measures shall include procedures for excavation, containment, and/or treatment of the contaminated soils to achieve contaminant levels below their ESLs. Any soils requiring offsite disposal shall be submitted to laboratory analysis for hazardous materials by a State-certified laboratory. If contaminant levels do not exceed established limits for non-hazardous waste, the soil may be disposed of at a Class II or III solid waste landfill. If the soil is classified as a hazardous waste, it shall be handled and hauled in accordance with State and federal regulations for hazardous waste and disposed of at a licensed Class I hazardous waste disposal facility.

**Mitigation Measure HAZ-2:** Prior to the issuance of a grading permit, the project sponsor shall prepare and implement during site preparation and grading activities a Health and Safety Plan (HASP). The HASP shall identify the measures necessary to protect workers and to prevent their exposure to petroleum hydrocarbons and volatile organic compounds (VOCs) that may occur in soils at the site. The HASP shall be prepared in accordance with the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard promulgated at 29 CFR 1910.120. It shall be prepared and implemented in accordance with all other applicable State and federal occupational safety and health standards.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There are no schools near the project site. The closest school is the Fairmont Elementary School, located at 724 Kearny Street in El Cerrito, more than one-half mile east of the site. Furthermore, the proposed residential use would not emit hazardous emissions, handle hazardous materials, or generate hazardous waste. There would be ***no impact*** on schools related to hazardous materials as a result of project implementation.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?* | ☐ | ☐ | ☐ | ☒ |

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

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

Each of these lists must be updated at least annually, and must be submitted to the Secretary for Environmental Protection, the head of the California Environmental Protection Agency (CalEPA). DTSC maintains the EnviroStor database for purposes of complying with Section 65962.5, while the SWRCB maintains the GeoTracker database. Both of these databases were queried during this environmental review, and the project site is not listed on the EnviroStor or GeoTracker databases and there were no hazardous waste sites or facilities identified within 1,000 feet of the project site on either database.[67, 68] There would be ***no impact*** related to hazardous materials sites compiled pursuant to Government Code Section 65962.5.

[67] California Department of Toxic Substances Control, EnviroStor Sites and Facilities, Accessed May 10, 2021 at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=2301+Columbia+Avenue,+Richmond,+California.

[68] State Water Resources Control Board, GeoTracker Database, Accessed May 10, 2021 at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=2301+Columbia+Avenue,+Richmond,+California.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There are no airports near the project site; the nearest public airport is Oakland International Airport located about 12.8 miles southeast of the site. The proposed project would not expose people to a safety hazard from airport operations.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?* | ☐ | ☐ | ☐ | ☒ |

Explanation: There are no private airstrips in the vicinity of the project site. The nearest private airstrip is San Rafael Airport in Marin County (formerly Smith Ranch Airport), located approximately 13.5 miles northwest of the site.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The project would not block or impede access to emergency evacuation routes, and the development of the proposed townhomes would not have the potential to interfere with implementation of the City's emergency response plan or evacuation plan.[69] In the event of a large-scale disaster, emergency response to the site would be coordinated by City responders with other response in the City. The project site would provide adequate emergency access and egress via Dalai Lama Avenue, Columbia Boulevard, and San Joaquin Street. Implementation of the project would not alter existing streets or otherwise interfere with emergency evacuation routes. There is therefore no potential for the project to impair implementation of emergency evacuation or emergency response plans.

[69] Genevieve Pastor-Cohen, Emergency Services Manager, City of Richmond Fire Department/Office of Emergency Services, personal communication, May 4, 2021.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *h) Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?* | ☐ | ☐ | ☐ | ☒ |

Explanation: Government Code Section 51178 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of high fire hazard within Local Responsibility Areas (LRAs) that are not under the direct jurisdiction of CAL FIRE, where local fire-fighting agencies have primary responsibility for fire response. CAL FIRE's mapping of Very High Fire Hazard Severity Zones (VHFHSZs) is based on data and models of potential fuels over a 30- to 50-year time horizon and their expected fire behavior and burn probabilities. The project site and all surrounding lands are designated as an LRA, and they are not within a VHFHSZ.[70] Furthermore, the project site is located in close proximity to San Francisco Bay, in an extensive area of urban development, with no wildlands in proximity to the site. Therefore, there is little to no potential for wildfire at the project site.

## X. 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 groundwater quality?* | ☐ | ☐ | ☒ | ☐ |

Explanation:

### *Construction Impacts*

Construction activities could potentially affect water quality as a result of erosion of sediment. In addition, leaks from construction equipment; accidental spills of fuel, oil, or hazardous liquids used for equipment maintenance; and accidental spills of construction materials are all potential sources of pollutants that could degrade water quality during construction. Stormwater runoff from the site is ultimately discharged, without treatment, to San Francisco Bay, which is on the list of impaired water bodies compiled by the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to the federal Clean Water Act. Because the State is required to develop action plans and establish Total Maximum Daily Loads (TMDLs) to improve water quality within these water bodies, uncontrolled discharge of pollutants into them is considered particularly detrimental.

[70] California Department of Forestry and Fire Protection (CAL FIRE), Contra Costa County Fire Hazard Severity Zones in SRA [map], Adopted by CAL FIRE November 7, 2007.

Generally, new development that entails "land disturbance" of 1 acre or more requires the project sponsor to obtain coverage under Construction General Permit (CGP) Order 2009-0009-DWQ, administered by the RWQCB. With a site area of 4.74 acres, all of which would be graded, the project would be required to obtain coverage under the CGP. Order 2009-0009-DWQ requires project sponsors to implement construction Best Management Practices (BMPs) at the project site and comply with numeric action levels (NALs) in order to achieve minimum federal water quality standards. The CGP requires control of non-stormwater discharges as well as stormwater discharges. Measures to control non-stormwater discharges such as spills, leakage, and dumping must be addressed through structural as well as non-structural BMPs.

Construction stormwater BMPs are intended to minimize the migration of sediments off-site. They can include covering soil stockpiles, sweeping soil from streets or other paved areas, performing site-disturbing activities in dry periods, and planting vegetation or landscaping quickly after disturbance to stabilize soils. Other typical stormwater BMPs include erosion-reduction controls such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), vehicle mats in wet areas, and retention/settlement ponds.

To obtain coverage, the applicant must electronically file a number of permit-related compliance documents referred to as Permit Registration Documents (PRDs). The required PRDs include a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan (SWPPP), Notice of Termination (NOT), NAL exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the RWQCB's Stormwater Multi-Application Report Tracking System (SMARTS). Once filed, these documents become immediately available to the public for review and comment.

Although project construction effects on surface water quality could result in a potentially significant impact on water quality, obtaining the required coverage under the CGP and implementing the required SWPPP would ensure that construction impacts on water quality remain ***less than significant***.

Richmond Municipal Code Section 12.44.030(e) also requires preparation and implementation of an Erosion and Sediment Control Plan (ESCP) for grading on sites of one-half acre or more. This requirement is reinforced in Municipal Code Section 12.22.090. The ESCP must include both interim controls to be implemented during grading and construction, and final permanent control features that minimize soil erosion and maximize sediment interception from the completed project site and provide for the control of runoff from the site. The Final and Interim ESCPs must be prepared by a registered civil engineer in accordance with the provisions of the latest editions of either the Association of Bay Area Government's (ABAG) *Manual of Standards for Erosion and Sediment Control Measures* or the Stormwater Best Management Practices handbooks produced by the California Stormwater Quality Association (CASQA) for both temporary and permanent erosion control measures. The ESCP must be approved by the City's Building Official, and the project applicant must pay a surety bond, with the amount determined by the approved engineer's construction cost estimate. For a project with a construction cost greater than $10,000, the bond will be at least $10,000. The City may utilize this bond to pay for installation stormwater controls that the applicant has failed to install by a schedule established in the ESCP, and to the Building Official's satisfaction. In the event any portion of the cash bond needs to be used for this purpose, the grading plan is automatically terminated, and the applicant will be required to apply for a new permit and prepare a new ESCP.

Once an ESCP has been approved by the City, a building inspector must visit the project site at least once a day during the rainy season, established in the City Code as October 1$^{st}$ through April 15$^{th}$, and at least twice a day during actives storms, including on weekends. The inspector must be accompanied by the construction contractor's superintendent on all site visits. The inspector will verify that V-ditches are properly maintained and flowing adequately, and that detention or retention basins are functioning

and not clogging with silt. Other stormwater controls, such as straw bales, sand bags, filter fabric, and spillways will be inspected with damaged or clogged features repaired or replaced. The inspector must maintain a log of all site inspections. These regular on-site inspections will ensure that the Erosion and Sediment Control Plan is being properly implemented during project construction.

### *Operational Impacts*

The primary source of water pollutants from residential development is from automotive vehicles traveling on site roadways. Moving vehicles deposit oil and grease, fuel residues, heavy metals (e.g. lead, copper, cadmium, and zinc), tire particles, and other pollutants. They emit polycyclic aromatic hydrocarbons (PAHs) from their exhaust, resulting from incomplete combustion of gasoline, which settles to the ground. Even parked vehicles can deposit oil and other pollutants. All of the pollutants described above collect on the impervious pavements, where they can be washed by stormwater into downstream surface waters, thereby degrading water quality. Pesticides that may be used on landscaping or around buildings can potentially contribute to the depletion of dissolved oxygen and/or toxic concentrations of dissolved ammonia in downstream receiving waters, creating acute toxicity for aquatic wildlife.

Buildings and equipment enclosures also provide potential sources of water pollutants because weathered paint and eroded metals from painted and unpainted surfaces can be washed away by stormwater. In addition, mercury and polychlorinated biphenyls (PCBs) that get deposited on roofs and other impervious surfaces as airborne pollutants can be washed into surface waters during storm events. Microbial pathogens are yet another pollutant that can be entrained in stormwater coming in contact with poorly protected trash collection areas, although the proposed project would not include centralized waste collection areas. Municipal waste collection would occur at the individual townhomes and residents would store garbage and recyclables in their garages.

Operational stormwater discharges from new development are regulated under the National Pollutant Discharge Elimination System (NPDES), administered by the RWQCB under authority of the U.S. Environmental Protection Agency. In accordance with the NPDES, the RWQCB regulates stormwater discharges via municipal stormwater permits issued to the cities, counties, water districts, and flood control districts under its jurisdiction in the San Francisco Bay Area. In the City of Richmond, development projects must comply with NPDES Permit No. CAS612008, issued to the Contra Costa Clean Water Program (CCCWP) and other Bay Area jurisdictions by the RWQCB (NPDES Order No. R2-2015-0049). The revised Municipal Regional Stormwater Permit (MRP) was adopted on November 19, 2015 and became effective on January 1, 2016. This permit replaced the previous permit issued on October 14, 2009, which was formally rescinded by the RWQCB. The current MRP consolidates the multiple countywide permits previously issued to member agencies in the San Francisco Bay Area under a single MRP regulating stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties and the cities of Fairfield, Suisun City, and Vallejo.

Although the MRP imposes a variety of responsibilities for monitoring and protecting stormwater quality on member agencies, it also includes requirements for individual development projects. Specifically, Provision C.3 of the MRP requires any private or public development project that would create or modify 10,000 square feet or more of impervious surfaces to take measures to improve water quality of stormwater discharges from the project site (i.e., stormwater runoff), including providing treatment of 100 percent of the stormwater runoff from the site. The size threshold is reduced to 5,000 square feet for certain special land use categories, which include auto service facilities, retail gasoline outlets, restaurants, and uncovered parking lots. Where a redevelopment project would alter 50 percent or more of the impervious surfaces of a previously existing project that was not subject to Provision C.3 requirements, the entire project must be designed and operated in compliance with Provision C.3. The Provision C.3 requirements also pertain to construction or widening of roads, trails, and sidewalks.

In the current MRP, Provision C.3 also requires small projects with 2,500 square feet to 10,000 square feet of new and replaced impervious surfaces and detached single-family home projects that create and/or replace 2,500 square feet or more of impervious surfaces to install at least one site design measure to reduce uncontrolled stormwater runoff. One example of an allowed site design measure is directing roof runoff into cisterns or barrels for reuse. Additional examples are provided below.

Based on the project plans, the proposed project would create 149,000 square feet of new impervious surfaces, including rooftops, streets, and other pavements. Since 92,500 square feet of existing impervious surfaces in the form of pavements and concrete pads would be removed, there would be a net increase of 56,500 square feet of impervious surfaces on the site. Therefore the project would be subject to the full Provision C.3 requirements and must include appropriate site design measures and source controls and hydraulically-sized stormwater treatment measures. Richmond Municipal Code Chapter 12.22 also requires new development to comply with the most recent version of the MRP. As part of this compliance, Chapter 12.22 requires project applicants to prepare and implement a Stormwater Control Plan (SCP) that meets the criteria in the most recent version of the Stormwater C.3 Guidebook prepared by the CCCWP. Property owners on sites containing a stormwater management facility or facilities are required to annually obtain a valid operation and maintenance certificate of compliance certifying to the inspection of and the proper operation and maintenance of the stormwater treatment facilities and other source control and site design measures. The City will conduct annual inspections to verify compliance, or will commission a private company authorized to conduct the inspections. Chapter 12.22 establishes that violation of the provisions of Chapter 12.22 constitutes a criminal misdemeanor that can result in payment of a fine and/or imprisonment upon conviction. It also notes that such violations may also constitute a violation of the federal Clean Water Act or the Porter-Cologne Act, and may be subject to the enforcement provisions of those acts, including civil and criminal penalties.

Projects subject to Provision C.3 must include low-impact development (LID) measures to capture and perform onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops. (Treatment may also occur offsite at an approved joint stormwater treatment facility.) Project applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable* (MEP), a standard established by the 1987 amendments to the federal Clean Water Act. LID treatment measures include harvesting and reuse, infiltration, evapotranspiration, and biotreatment.

Provision C.3 LID requirements include source controls and site design and stormwater treatment requirements. Examples of source control requirements that could be relevant to the proposed project include:

- Landscaping that minimizes irrigation and runoff, promotes surface infiltration, minimizes the use of pesticides and fertilizers, and incorporates other appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping;
- Efficient irrigation systems;
- Properly designed trash storage areas; and
- Storm drain system stenciling or signage.

The MRP states that permitees (i.e., the cities and counties) should encourage projects that do not meet the Provision C.3 size thresholds to still implement these source control measures to the extent feasible.

Examples of site design and stormwater treatment requirements that could be relevant to the proposed project include:

- Conservation of natural areas, including existing trees, other vegetation, and soils;
- Minimization of impervious surfaces;
- Construction of sidewalks, walkways, patios, and/or parking lots with pervious pavements;
- Minimization of stormwater runoff by directing runoff from roofs, sidewalks, walkways, driveways, and/or uncovered parking lots onto vegetated areas; and
- Treatment of 100 percent of the site's stormwater runoff with onsite LID treatment measures (or with LID treatment measures at a joint stormwater treatment facility) through harvesting and re-use, infiltration, evapotranspiration, or biotreatment.

Biotreatment (or bioretention) systems must be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate, and infiltrate runoff at a minimum of 5 inches per hour during the life of the facility. The planting and soil media for biotreatment (or bioretention) systems must be designed to sustain healthy, vigorous plant growth and maximize stormwater runoff retention and pollutant removal. Biotreatment soil media must meet minimum specifications. Green roofs may be considered biotreatment systems provided they meet the criteria for treatment capacity stipulated in the MRP and have a sufficient depth of planting media to support the long-term health of the vegetation selected for the green roof.

The size and capacity of required stormwater treatment systems is determined in part on historical rainfall records for the project area. Systems may be based on the volume of runoff, the peak flow rate of runoff, or a combination of the two, with numeric hydraulic design criteria stipulated in the MRP for each method.

In certain cases where an applicant can demonstrate the infeasibility of treating 100 percent of the runoff from a project site, there are provisions for payment of an in-lieu fee for treatment of the untreated portion of stormwater at a regional or municipal treatment facility. Provision C.3 also defines three categories of "special projects" (Category A, B, and C) that may be eligible for a reduction in the amount of stormwater they are required to treat via Incentive LID Treatment Reduction Credits that must be approved by the RWQCB. Special projects are generally land development projects that can be characterized as infill, smart growth, high-density, or transit-oriented development that can either reduce existing impervious surfaces or create less "accessory" impervious areas and automobile-related pollutant impacts. The LID Treatment Reduction Credits allow the treatment of a stipulated portion of the site's runoff with non-LID treatment systems, such as tree box high-flow-rate bio-filters or vault-based high-flow-rate media filters. The proposed project would not meet the criteria for any of the special projects defined in Section C.3.e.ii of the MRP.

In order to comply with the C.3 stormwater requirements described above, the project applicant proposes to collect storm runoff from the project's impervious surfaces in an underground system of detention pipes and treat it in three underground treatment wells. As shown on Figure 12, one of the treatment wells would be located near the northwest corner of the eastern parcel, a second would be located in the northwest corner of the western parcel, and the third would be located on the western edge of the western parcel. The detention pipes would extend along the northern edge of the site, along a portion of the western edge of the site, and in the northern alley in the eastern parcel.

In the proposed MaxWell®Plus treatment system, incoming water from the surface grated inlets and connecting pipes would be received in a deep, large-volume primary settling chamber where silt and other heavy particles would settle to the bottom of the chamber. The standard MaxWell Plus System has over 2,500 gallons of capacity to contain sediment and debris carried by incoming water. The filtered water would then flow into a separate treatment chamber. Floating trash, paper, pavement oil, etc. would be filtered by the debris shields in each chamber. These shielding devices would be

equipped with an effective screen to filter suspended material and are vented to prevent siphoning of floating surface debris as the system drains.

Outflow of the pre-treated water from the primary settling chamber would be regulated to a design rate of up to 0.25 cubic feet per second (cfs) and directed to the secondary settling chamber, where the settling and containment process would be repeated to provide controlled, uniform treatment. Both settling chambers would be equipped with floating absorbent sponges that are 100-percent water repellent but that wick petrochemical compounds from the water. Each sponge has a capacity of up to 128 ounces to accommodate effective, long-term treatment. According to the manufacturer, the absorbent is completely inert and will safely remove runoff constituents down to rainbow sheens that are typically no more than one molecule thick.[71] The system would be drained as cleaned water rises under the debris shields and spills into the top of the overflow pipe, which would discharge into the underlying soils. Excess water from the eastern parcel would also be discharged into the existing 12-inch-diameter storm drain located at the north end of the parcel.

The CCCWP Stormwater C.3 Guidebook indicates that dry wells are an acceptable LID strategy to manage stormwater if underlying soil conditions are suitable. Dry wells can only be used where Hydrologic Soil Group A or Group B soil is available for infiltration. According to the United States Department of Agriculture (USDA), Group A and Group B soils have a high and moderate infiltration rate and consist of sandy material. This is consistent with the findings of the geotechnical investigation report summarized in Section VII, which identified the presence of sandy soil that can be classified as Group A or Group B at depths ranging from 25 to 30 feet. The proposed dry wells would be extended to these sand layers. The geotechnical engineer for the project confirmed that the soils at the site would meet the infiltration objectives for the site's anticipated stormwater runoff, provided the dry wells are properly installed.[72]

Provision C.3 of the MRP also includes hydromodification management (HM) requirements for certain projects located in areas susceptible to hydrograph modification. Hydrograph modification occurs when an undeveloped site is developed with impervious surfaces such as buildings and pavements, which prevents natural infiltration by rain water, and which results in an increase in the volume and rate of stormwater runoff from the site. Hydrograph modification has the undesirable effect of increasing erosion of natural creeks and earthen channels, which can cause flooding, property damage, degradation of stream habitat, and deterioration of water quality.

Projects in Contra Costa County that create or replace 1 acre or more of impervious surfaces on sites must implement HM measures to minimize changes in the rate and flow of stormwater runoff in comparison with pre-project conditions unless they qualify for one of the exceptions set forth in Provision C.3.g(i) of the MRP, none of which are applicable to the proposed project. (The applicability of the HM requirements vary in other jurisdictions.) The MRP includes provisions for compliance with the HM requirements in cases where meeting the HM standard is not practical due to excessive cost (more than 2 percent of project construction costs) or extreme space limitations.

For Contra Costa County permitees, the HM controls must be designed such that the post-project discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow up to the pre-project 10-year peak flow. HM measures can include site design and hydrologic source control measures, on-site structural HM measures, regional HM control structures, in-stream restorative measures, or a combination thereof. However, in-stream measures

[71] Torrent Resources, MaxWell Plus Drainage System Product Information and Design Features [undated].

[72] Quantum Geotechnical, Inc., *Proposed Residential Development "The Annex", San Joaquin Street and Dalai Lama Drive, Richmond, California, APN 507-251-021 & 507-251-020-8 and 507-251-015-8, Comments Regarding the Use of Dry Wells*, Project No. G028.G, May 20, 2021.

may only be used when the receiving stream is in a hardened channel or already shows evidence of excessive sediment, erosion, or deposition.

The project site would create or replace more than 1 acre of impervious surfaces, and therefore would be subject to the HM requirements. The stormwater control plan prepared by the project engineer states that the proposed onsite collection, detention, and treatment facilities have been sized in accordance with the criteria set forth in the latest edition of the CCCWP Stormwater C.3 Guidebook. This will be subject to confirmation by the Richmond Engineering & Capital Improvement Projects Department.

Based on the preceding analysis, construction and operation of the proposed project would have a ***less-than-significant impact*** on water quality.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?* | ☐ | ☐ | ☒ | ☐ |

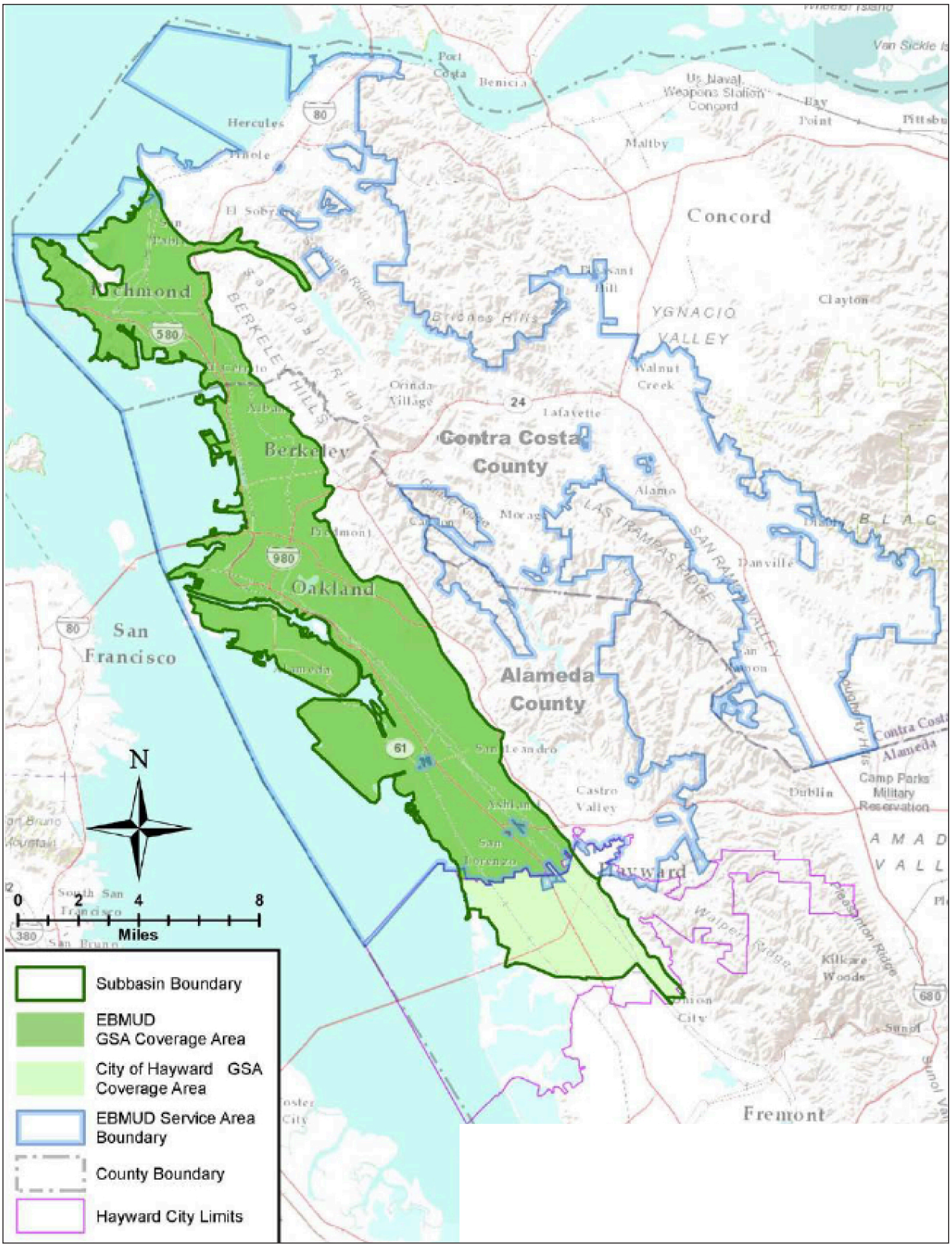
Explanation: The project site is located in the service area of the East Bay Municipal Utility District (EBMUD). The site is underlain by the East Bay Plain Groundwater Basin, a subbasin of the larger Santa Clara Valley Groundwater Basin. The East Bay Plain Basin is 25 miles long, 2 to 7 miles wide, and includes all or portions of the cities of Richmond, San Pablo, El Cerrito, Albany, Berkeley, Emeryville, Piedmont, Alameda, Oakland, San Leandro, San Lorenzo, and Hayward, as shown on Figure WQ-1.[73] The southern portion of this aquifer is designated as the South East Bay Plain Basin; this subbasin underlies the cities of Hayward and San Leandro, a portion of the City of Oakland, and Bay Farm Island in the City of Alameda, as shown on Figure WQ-2. Although EBMUD utilizes a portion of the South East Bay Plain Basin for storage of potable water (via injection) during normal rainfall years and for extraction of potable water during drought years, the groundwater basin underlying the project site is not used for this purpose. According to EBMUD, the aquifer underlying the project site is an insignificant source of groundwater.[74]

The *Richmond General Plan 2030 Draft Environmental Impact Report* (EIR) reports that portions of the City underlain by the East Bay Plain have poorly drained soils that retard percolation to the water table.[75] Furthermore, the water table is close to the surface due to the proximity to San Francisco Bay. Therefore, there may be outflow from the water table to the Bay, with percolation to a deeper aquifer limited. Alternatively, there may be seawater intrusion into the local water table, rendering it non-potable. Groundwater recharge at the site is further limited by the amount of impervious surfaces currently present on the surface of the central and western project parcels. The stormwater control plan for the project (Figure 12) reports that there are 92,500 square feet of impervious surfaces on the site, representing about 45 percent of the total site area. Upon completion of the project, there would

[73] San Francisco Bay Regional Water Quality Control Board, Groundwater Committee, *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, May 11, 2021.

[74] East Bay Municipal Utility District, *South East Bay Plain Basin Groundwater Management Plan*, Section 2.3: Groundwater Basin Delineation, March 2013.

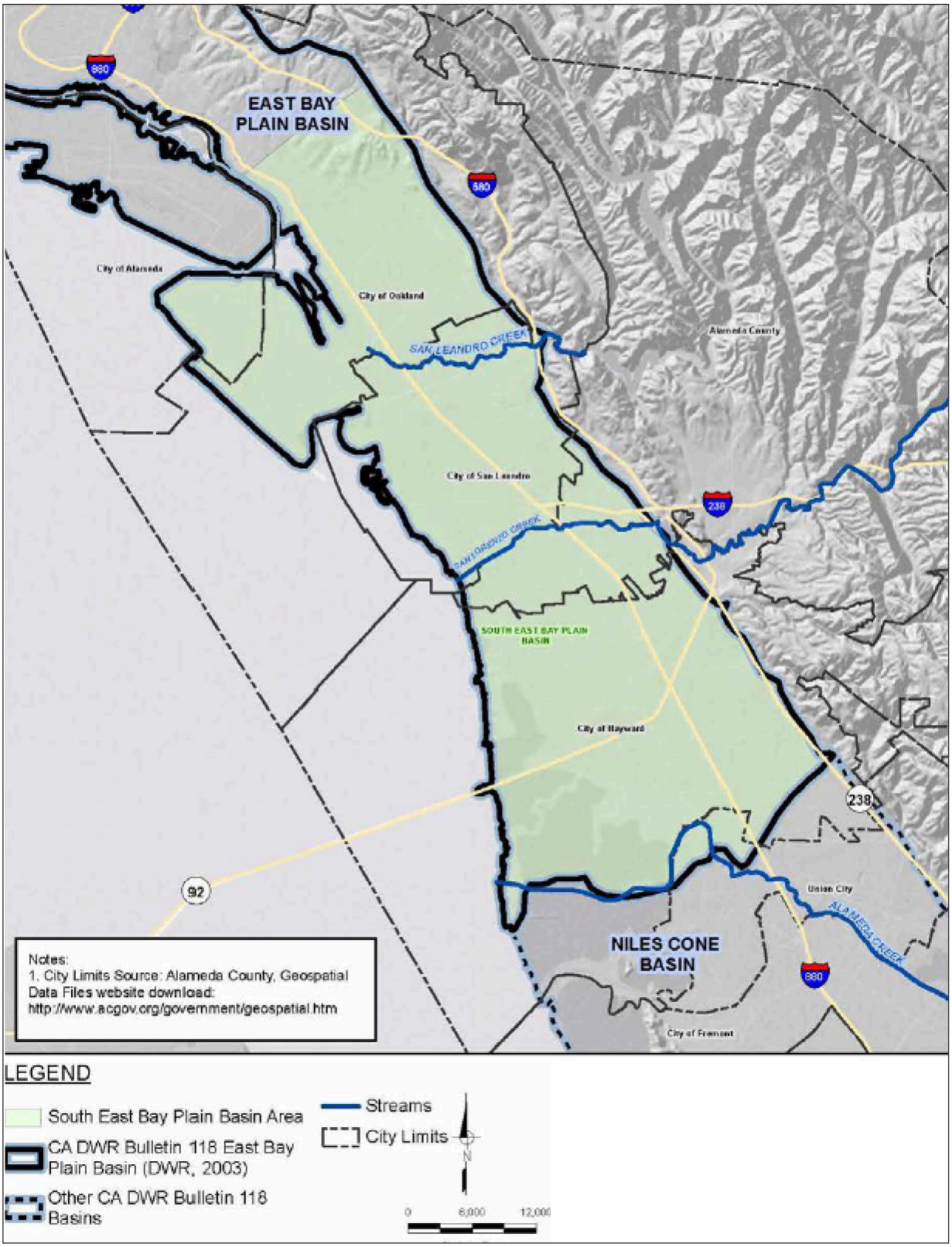
[75] City of Richmond, *Richmond General Plan 2030 Draft Environmental Impact Report*, Section 3.9: Hydrology and Water Quality, February 2011.




## Figure WQ-1

## East Bay Plain Groundwater Basin

Source: California Department of Water Resources




## Figure WQ-2

## South East Bay Plain Groundwater Subbasin

Source: East Bay Municipal Utility District

be approximately 149,000 square feet of impervious surfaces. While this increase would reduce the amount of percolation that currently occurs, for the reasons discussed above, it is not expected that this would substantially reduce groundwater recharge. Since the underlying groundwater basin is not currently used or planned for use as a potable water supply, the negligible effect implementation of the project would have on groundwater supplies would be a ***less-than-significant impact***. Furthermore, the General Plan EIR found the impact of new development allowed under the General Plan on groundwater to be a less-than-significant impact, and the proposed project is consistent with the General Plan, as discussed in Section XI.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river of through the addition of impervious surfaces, in a manner which would:* | | | | |
| *i) Result in substantial erosion or siltation on- or off-site?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Construction-related impacts relating to erosion or siltation both on and off-site are discussed in Section X-a, and additional discussion is provided in the next subsection. As discussed in Section X-a, the required SWPPP and ESCP would include measures that the applicant would be required to implement for purposes of minimizing erosion effects that could occur both during and after completion of construction. The project would not alter the course of a stream or river, and the potential adverse effects of the fairly minor changes to existing surface drainage patterns would be minimized through the required construction and post-construction stormwater controls and measures for minimizing erosion. With implementation of these required measures, the project would not result in substantial erosion or siltation on- or off-site. This would be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?* | ☐ | ☐ | ☒ | ☐ |

Explanation: As discussed in Section X-a, the project would create 149,000 square feet of new and replacement impervious surfaces (92,500 square feet of existing impervious surfaces would be removed). Absent appropriate controls, this would result in increased discharge of stormwater from the project site during storm events. As noted in Section X-a, the project is required to provide onsite stormwater treatment facilities with detention capacity designed to prevent an increase in the rate and volume of stormwater discharged from the site during 10-year storm conditions in comparison with existing conditions. Compliance with these requirements would ensure that the project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. This would be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *iii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?* | ☐ | ☐ | ☒ | ☐ |

Explanation: As discussed in the preceding subsections, stormwater runoff from the project site would be captured and treated onsite and the discharge of treated water from the site would be required to not exceed the current volume and rate of discharge from the site during the 10-year storm event. Thus, stormwater discharge from the site would not exceed the capacity of the existing stormwater drainage system, and Section X-a provides a detailed discussion about the required on-site stormwater treatment facilities that would ensure the project would not be a substantial source of polluted runoff. This would be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *iv) Impede or redirect flood flows?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Any flooding of the site in its current state would be uncontained and impeded only by variations in topography. Development of the site would include stormwater collection facilities that would capture, detain, and treat stormwater prior to discharge into underlying soils and into the existing offsite storm drainage system. In the event of flooding of the site, these facilities would absorb flood water and discharge it is the storm drainage system emptied out. While there would be redirection of floodwaters caused by the new building structures on the site, the project's onsite stormwater collection, detention, and treatment facilities would serve to incrementally reduce flood waters encroaching on the site. As discussed in the following subsection, nearly all of the site is located outside of the 100-year flood plain, so there is low potential for flooding of the site. This would be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?* | ☐ | ☐ | ☒ | ☐ |

Explanation:

### *Flood Hazard*

The majority of the project site does not lie within a 100-year flood plain.[76] As shown on Figure WQ-3, with the exception of the northeast corner of the eastern parcel, the project site is within Zone X, Area of Minimal Flood Hazard, as mapped by the Federal Emergency Management Agency (FEMA). The northeast corner of the eastern parcel is located in Zone X, 0.2 Percent Annual Chance Flood Hazard, which is assigned to areas of 0.2-percent annual chance flood (i.e., 500-year flood), areas of 1-percent annual chance flood (i.e., 100-year flood) with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1-percent annual chance flood. Thus, while this corner of the site is located within a 100-year flood zone, inundation from such a 100-year storm would be expected to be less than 1 foot in depth. The project's onsite stormwater collection, detention, and treatment facilities would serve to incrementally reduce any flood waters that encroached on the site, thereby reducing the magnitude of flooding on the site in comparison with existing conditions, and Section X-c-ii explains why the project would not cause or increase off-site flooding. In the unlikely event that the northeast corner of the became inundated, based on the area of potential inundation mapped by FEMA, it would not encroach on the townhomes, and therefore there would be little potential for flood waters to entrain pollutants from the site.

### *Tsunami Inundation*

There are two sources for tsunamis in coastal California, based on distance and warning time: local sources and distant sources. Local tsunami sources, like large offshore faults and massive submarine landslides, can put adjacent coastal communities at the greatest risk of a tsunami because the public must respond quickly with little or no official guidance. The Cascadia Subduction Zone is an example of a local tsunami source that could threaten northern California. Stretching from Cape Mendocino, California to Vancouver Island, British Columbia, this 700-mile long submarine fault system forms the crustal plate boundary where the offshore Gorda and Juan de Fuca plates dive, or subduct, beneath the North American plate. Distant tsunami sources are tsunamis that may be caused by a very large earthquake elsewhere on the Pacific Rim that could reach the California coast many hours after the earthquake. The Alaska-Aleutians Subduction Zone is an example of a distant source that has caused destructive tsunamis in California.

In the San Francisco Bay Area, any potential tsunami would originate in the Pacific Ocean, and to reach the City of Richmond, would need to pass through the relatively narrow Golden Gate and into San Francisco Bay, where it would lose much of its energy. The project site is more than 10 miles from the Golden Gate.

Because very large tsunamis are infrequent and the likelihood that the largest potential tsunamis have not yet occurred in Contra Costa County, the State tsunami program developed a suite of maximum credible tsunami scenarios as part of their tsunami inundation mapping project for local evacuation

[76] Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel Number 06013C0239G, September 15, 2015.

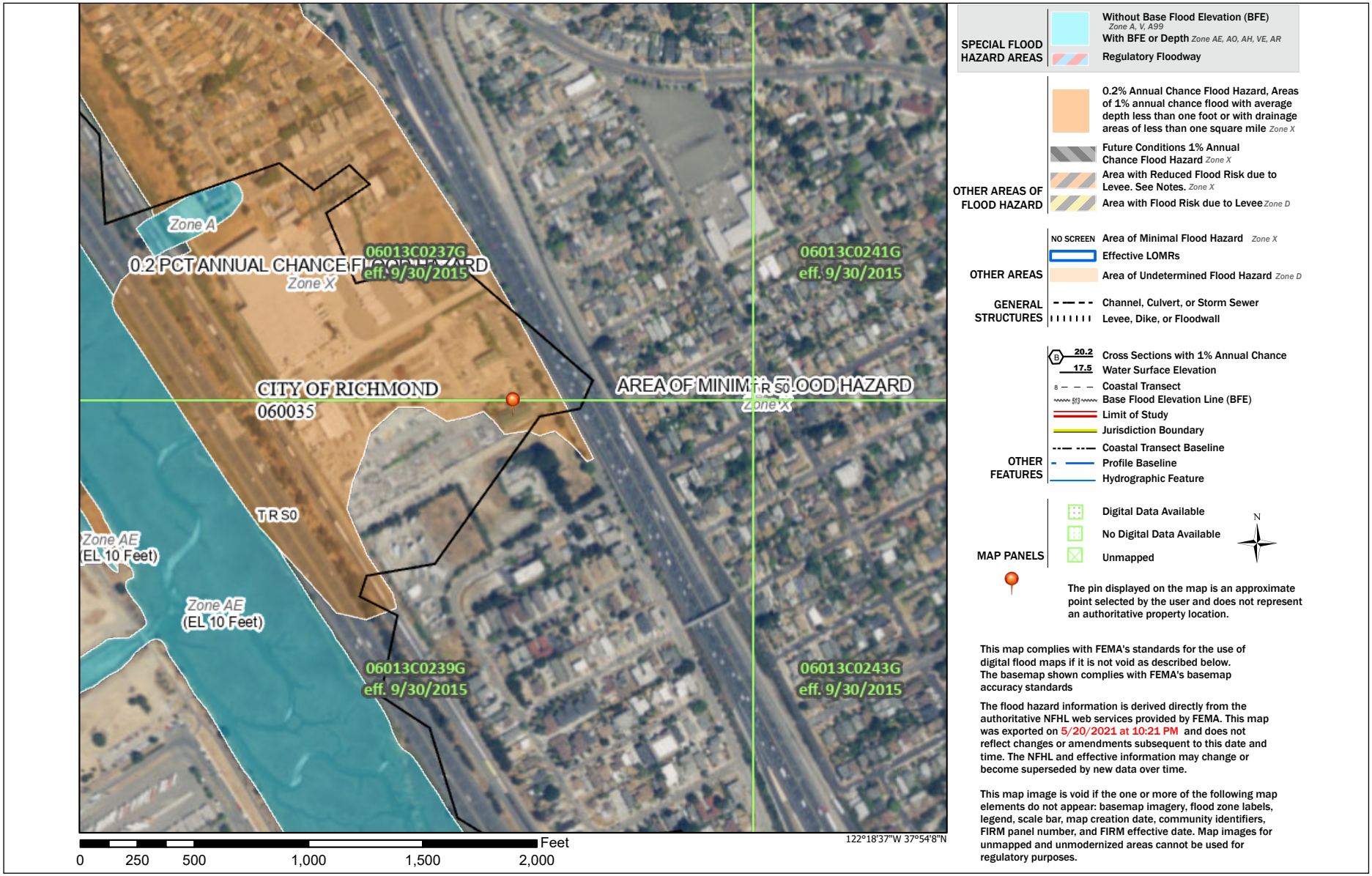



**Figure WQ-3**

FEMA Flood Map of Project Vicinity

Source: FEMA

planning. The Association of Bay Area Governments (ABAG) maintains an Interactive Hazard Viewer Map that maps hazard levels throughout the Bay Area for different types of natural disaster hazards, including inundation by tsunami.[77] Local agencies, organizations, and other stakeholders assisted the State in the development of the hazard mapping, so that it can be used for evacuation planning at the community level. The data underlying the hazard mapping does not represent inundation from a single scenario event, but is rather an ensemble of potential source events that may affect the region. The data used to produce this mapping tool is based on tsunami modeling performed in 2009 by the University of Southern California Tsunami Research Center, funded through the California Emergency Management Agency by the National Tsunami Hazard Mitigation Program. The tsunami modeling was performed utilizing the MOST (Method of Splitting Tsunamis) computational program, which allows for wave evolution over variable bathymetry and topography in order to determine the inundation mapping. The bathymetric/topographic data that were used in the tsunami models consist of a series of nested grids that were adjusted to "Mean High Water" sea-level conditions, representing a conservative sea level for purposes of the tsunami modeling and mapping. The Tsunami Hazard areas are developed for all populated areas at risk to tsunamis in California and represent a combination of the maximum considered tsunamis for each area.

The tsunami model was collectively updated in March 2014 by tsunami modelers, geologic hazard mapping scientists, and emergency planning specialists from the California Geological Survey, the California Governor's Office of Emergency Services, the Tsunami Research Center at the University of Southern California, and AECOM Technical Services. In March 2021 the model was updated again for Alameda, Mendocino, Monterey, and San Mateo counties.

Although near-shore areas of Richmond are mapped as being within a potential tsunami runup zone, as shown on Figure WQ-4, the project site is not located within the tsunami inundation zone. Although the mapped inundation zone extends to the area immediately to the west of the western parcel, there is a significant difference in the elevation of the area west of the site, which is about 8 feet above mean sea level (msl) near the southern end of the project site and about 10 feet msl near the northern end. By contrast, elevations on the western project parcel are mostly above 18 feet msl, and are around 20 feet msl across most of the parcel.[78] Given this significant grade difference, in the event of a tsunami encroaching into San Francisco Bay, the tsunami runup in the project vicinity would be expected to follow more low-lying pathways. For example, Interstate 580 is at lower elevations than the project site, and could accommodate considerable spillover from tsunami inundation of the Bay shoreline in the project vicinity. Based on these considerations, there does not appear to be a substantial risk of inundation by tsunami at the site.

### *Seiche*

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. Given the size and configuration of San Francisco Bay, the potential for a seiche to affect the City of Richmond is low, and the greater inundation risk is due to tsunami, addressed above.

With minimal potential for inundation by flood and no potential for inundation by tsunami or seiche, there would be little to no potential for the project to release pollutants into waters resulting from inundation. The project would have a ***less-than-significant impact*** due to releasing pollutants during inundation of the project site.

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[77] Association of Bay Area Governments, Resilience Program, MTC/ABAG Hazard Viewer Map, Accessed May 21, 2021 at: https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8.

[78] CSW/Stuber-Stresh Engineering Group, Inc., "San Joaquin Street & 2301 Columbia Blvd. Alta Land Title Survey" [map], September 28, 2020.

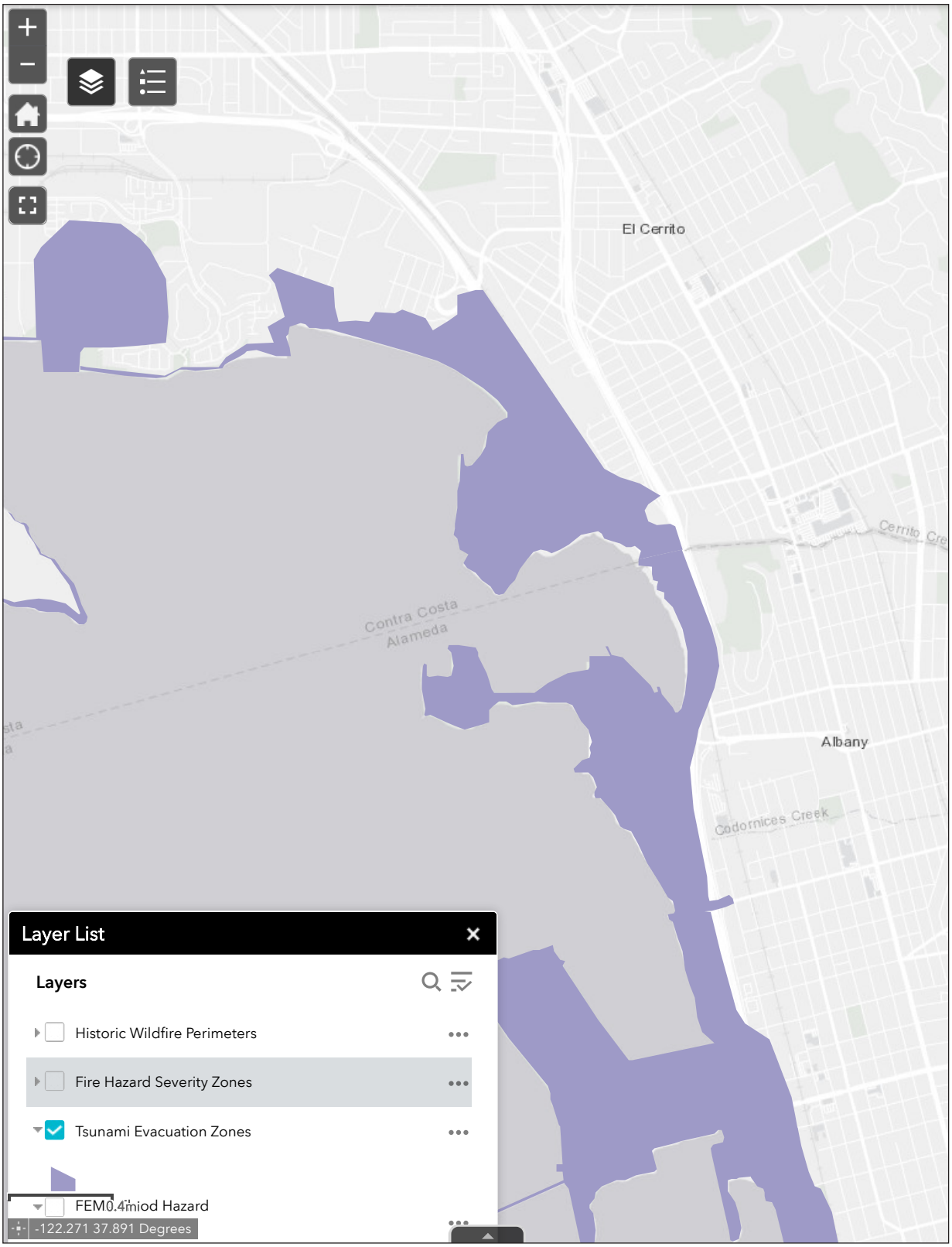


**Figure WQ-4**

## Tsunami Inundation Map of Project Area

Source: MTC/ABAG

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| e) *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?* | ☐ | ☐ | ☒ | ☐ |

### *Water Quality Control Plan*

The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the master water quality control planning document adopted by the San Francisco Bay Regional Water Quality Control Board (RWQCB) in accordance with the Porter-Cologne Water Quality Control Act of 1969.[79] It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan has been adopted and approved by the State Water Resources Control Board, U.S. Environmental Protection Agency (USEPA), and the Office of Administrative Law, where required.

Among other provisions, the Basin Plan establishes conditions (discharge prohibitions) that must be met at all times. These include restrictions on discharge of wastewater, wastewater sludge, biocides (i.e., pesticides, herbicides, copper, etc.), oils, and a wide range of solid materials, including silt, sand, and clay. Point source discharges must be made in accordance with waste discharge requirements (WDRs) established by the RWQCB in accordance with the NPDES program described in Section X-a.

The Basin Plan is a large and complex document with many specific provisions, policies, and implementation plans all with the overarching goal of protecting water quality for beneficial uses, such as:

- agricultural, municipal, domestic, and industrial supply;
- marine, estuarine, and warm and cold freshwater wildlife habitats;
- commercial and sport fishing;
- navigation;
- preservation of rare and endangered species;
- contact and non-contact water recreation;
- shellfish harvesting;
- fish spawning;
- and more.

Many of the programs and other provisions described in the Basin Plan are not applicable to the proposed project. However, the proposed project would be required to comply with the NPDES regulations pertaining to construction and operation of new development sites, described in detail in Section X-a, above. By complying with the applicable provisions of these regulations, potential water pollutants generated by construction and operation of the project would be minimized and would not adversely affect surface or groundwater quality. Therefore, the project would not conflict with or

[79] California Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, May 4, 2017.

obstruct implementation of the applicable water quality control plan. This would be a ***less-than-significant*** impact.

### *Sustainable Groundwater Management Plan*

Despite California's heavy reliance on groundwater, the extraction of groundwater was never regulated until the 2014 passage of a package of bills that collectively formed the Sustainable Groundwater Management Act (SGMA). Senate Bill (SB) 1168, Assembly Bill (AB) 1739, and SB 1319 (which amended AB 1739) established a comprehensive Statewide groundwater management program with the primary goal of achieving sustainable groundwater basins over the next 20 years. Improved groundwater management is intended to provide a water supply buffer during periods of drought.

Rather than regulating groundwater at the State level, the SGMA allocates responsibility for local management of groundwater basins. The basins are to be managed by Groundwater Sustainability Agencies (GSAs), which can be formed by any local agency or coordinated group of agencies for purpose of complying with the SGMA. If no agency is formed, the county is presumed to be the local GSA unless the county explicitly opts out. In some cases, the legislation lists new special districts, which have exclusive authority for managing groundwater within their jurisdictional boundaries.

GSAs have authority to acquire land and water for purposes of recharging the groundwater basin and storing and transporting water. The GSAs must submit annual reports to the California Department of Water Resources (DWR), listing groundwater elevation data, amount of groundwater storage, use of surface water for groundwater recharge (or as water supply), and total use of water within the GSA's boundaries.

The DWR was required by prior legislation to rank the priority of each of the State's 515 groundwater basins and subbasins as either high, medium, low, or very low priority by January 31, 2015. These rankings were made in accordance with the California Statewide Groundwater Elevation Monitoring (CASGEM) program. The CASGEM program considers such factors as the number of public wells in the basin, population served, acreage of land above the basin, reliance on groundwater, history of overdrafting, occurrence of subsidence, degradation in water quality, and other factors.

The SGMA requires Groundwater Sustainability Agencies (GSAs) to form in the State's high- and medium-priority basins and subbasins by June 30, 2017. For groundwater basins designed as medium or high priority, the SGMA requires the responsible GSA to prepare and adopt a Groundwater Sustainability Plan (GSP). Under certain conditions, including where a GSA has performed an analysis that demonstrates the groundwater basin under its purview has been operated within its sustainable yield over a period of at least 10 years, the GSA may prepare an Alternative to a GSP. The GSPs or Alternative GSPs must encompass an entire basin or subbasin and must demonstrate that the basin can achieve sustainable groundwater management within 20 years of adoption of the plan.

Groundwater supplies in the project area are managed by EBMUD, which is the domestic water supplier for 20 incorporated cities and 14 unincorporated communities in Alameda and Contra Costa counties. EBMUD has been designated by the DWR as the GSA for the East Bay Plain Basin, which underlies the project site, as discussed in Section X-b, above.[80] This groundwater basin has been designated a medium-priority basin by DWR.[81]

In November 2018 EBMUD received a $1 million grant from DWR to assist the agency in development of the East Bay Plain Subbasin Groundwater Sustainability Plan. EBMUD has been reaching out to

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[80] California Department of Water Resources, SGMA Portal, All Posted GSA Notices, Accessed May 20, 2021 at: https://sgma.water.ca.gov/portal/gsa/all.

[81] California Department of Water Resources, *Sustainable Groundwater Management Act, 2019 Basin Prioritization Process and* Results, Table A-1: Statewide SGMA 2019 Basin Prioritization Results, Phase 1 Final, April 2019.

stakeholders both prior to and subsequent to being awarded the grant, conducting workshops and meeting with a Technical Advisory Committee. The District is in the process of implementing a characterization project intended to develop a hydrogeologic conceptual model of the groundwater basin through groundwater pumping tests, completion of isotopic sampling of groundwater and streams, and installation of 12 monitoring wells. As of May 2021, the GSP is still under development.[82]

Since the EBMUD has not yet adopted a GSP, there is no potential for the proposed project to obstruct the implementation of an applicable GSP. Furthermore, as discussed in Section X-b, no groundwater would be pumped at the project site, and development of the project would have a negligible effect on groundwater recharge at the site. Consequently, there is no potential for the project to substantially interfere with the management of groundwater supplies. This would be a ***less-than-significant*** impact.

## XI. 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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The proposed project would develop a previously disturbed site that lies at the interface between existing residential development to the south and commercial development to the north. A new internal street would be created to provide access to the proposed townhomes on the western and central parcels; this street would create a new intersection on Dalai Lama Avenue, approximately 200 feet west of Napa Street. Internal alleyways would provide vehicle access to the proposed townhomes; two new alleys would also extend eastward from Napa Street into the eastern project parcel. The project would be integrated into the established adjacent residential community. Implementation of the project would not close off any existing roadways and would not construct new roadways or other potential barriers that could physically divide the existing neighborhood, nor would it otherwise create any barriers to existing circulation within the community. Therefore, implementation of the proposed project would not physically divide an established community. The would be ***no impact***.

[82] East Bay Municipal Utility District, Sustainable Groundwater Management, Current Updates, Accessed May 20, 2021 at: https://www.ebmud.com/water/about-your-water/water-supply/groundwater-sustainability-agencies/.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purposed of avoiding or mitigating an environmental effect?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The primary land use plan governing development of the project site is the *Richmond General Plan 2030*; there are no area plans or specific plans applicable to the site. The General Plan was reviewed to evaluate the proposed project's consistency with applicable policies.

### *General Plan: Land Use*

The General Plan land use designation of the site is CMU – Medium-Intensity Mixed-Use (Commercial Emphasis), which is one of two Key Corridor land use classifications defined in the *Richmond General Plan 2030*. The CMU category allows Includes mixed-use development with commercial or office/light industrial uses encouraged at street-level along corridors. This classification is distinguished from the Medium-Density Mixed-Use (Residential Emphasis) land use classification in that it allows residential-only or commercial-only development. Residential uses may include condominiums, townhouses, or apartments and commercial uses may include small- to large-scale retail or office development. New development must have a pedestrian-oriented building design with minimal setbacks and parking located to the sides or rear of buildings preferred. A residential density of up to 50 dwelling units per acre (du/ac) is allowed. It has a height limit of 55 feet and an allowable floor area ratio (FAR) of 0.25 to 2.0 for commercial uses.

The proposed project is a principal permitted use within the CMU land use designation. The project would have a density of 21.1 du/ac, within the allowable development intensity. With a maximum height of 35 feet (or 39 feet to the top of the parapets), the proposed building would conform to the height limit. Thus, the proposed project would conform to the Medium-Intensity Mixed-Use (Commercial Emphasis) land use designation and the stipulated development standards. Additional development standards are required by the Zoning Ordinance, discussed later in this section.

In addition to the land use designations, the Land Use and Urban Design Element of the General Plan identifies specific areas within the City where targeted General Plan policies may apply. These areas include the following (the General Plan figure number showing a map of the corresponding areas is in parentheses):

- key corridors (Figure 3.3)
- activity centers (Figure 3.4)
- community areas (Figure 3.6)
- change areas (Figure 3.7)
- major activity centers (Figure 3.8)
- change area key corridors (Figure 3.9)
- change area districts (Figure 3.10)

The project site is located within an identified Activity Center, as shown on General Plan Figure 3.4. The General Plan states that Activity Centers are intended to be pedestrian- and transit-friendly community hubs characterized by mixed-use and higher-density development capable of generating revenue and creating jobs while providing services and amenities to residents, businesses, and visitors. While the proposed project is not mixed use and would not generate revenue or new jobs, the CMU land use designation allows residential-only development, as noted above. Therefore, the project would be considered a compatible use within the Activity Center.

### *General Plan Policies*

In general, CEQA does not treat conflicts with adopted general plan policies as significant impacts unless the policies were adopted for purposes of avoiding or reducing environmental effects. The discussion in this section focuses in particular on policies that can be seen to meet that criterion. All of the *Richmond General Plan 2030* policies were reviewed to identify those applicable to the proposed project and evaluate the project's consistency with those policies. No conflicts with adopted General Plan policies adopted for purposes of avoiding or reducing environmental effects were identified for the proposed project.

In particular, the project would further the City's goal expressed in Land Use and Urban Design Element Goal LU1, An Improved Urban Environment, which calls for development strategies that emphasize high-density, mixed-use infill development and a safe, vibrant, economically-sustainable environment that takes advantage of existing infrastructure and public facilities. The proposed project would essentially be an infill project developed at a relatively high density, and which would integrate with infrastructure and public facilities. The project would also further the objective set forth in Goal LU2, which promotes the creation of healthy and viable neighborhoods that provide safe places for people of all ages, ethnicities, and abilities to live, work, and play. The project's numerous green building features would be supportive of Goal LU6, High-Quality and Sustainable Development, which aims to maintain a high standard of design, planning, and construction of new and renovated public and private facilities, infrastructure, and services, utilizing a comprehensive planning approach that supports a sustainable and healthy community and reduces impacts on the natural environment. The project would be consistent with land use policies supporting these goals, including policies LU1.1, LU1.4, LU2.1, LU2.2, and LU6.5.

All of the other elements of the General Plan were reviewed to identify any policies the proposed project could potentially conflict with, and none were identified. The project would be consistent with the *Richmond General Plan 2030*; this would be subject to confirmation by City staff and the City's decision makers.

### *Zoning Ordinance*

In 2015 the City of Richmond developed a Form-Based Code for the regulation of new development within delineated Transect Zones, which are "livable corridors" comprised of several of the City's commercial corridors and surrounding areas. These new zoning regulations are expected to supplement the City's traditional zoning ordinance and are intended to protect and promote the public health, safety, comfort, convenience, and general welfare of the community. Although they have not yet been adopted by the City Council, pursuant to Article 15.04.304 of the Zoning Ordinance, projects located with an Interim Study (IS) zone are subject to discretionary review of conformance with the form-based zoning regulations under consideration for adoption. The project site is not located in a Transect Zone or an IS zone, so this analysis does not consider the project's consistency with the draft Form-Based Code. It is also noted that Municipal Code Section 15.04.304.030 indicates that the IS designations expired on December 30, 2019.

The project site is zoned CG – General Commercial. This zoning district is intended to accommodate retail, service, office, research and development, and limited industrial uses that are not compatible with mixed use development. No residential uses are allowed in the CG district, so the project applicant

is requesting rezoning of the project property to an RM1 – Medium Density Multi-Family Residential district pursuant to Article 15.04.814 of the Richmond Municipal Code. Therefore, the zoning consistency analysis summarized below pertains to the RM1 district.

The proposed development is for townhome-style condominiums. Municipal Code Section 15.04.104.020 defines condominiums as follows:

> An estate in real property consisting of an undivided interest in common in a portion of a parcel of real property, together with a separate interest in space in a residential building such as an apartment. A condominium may include, in addition, a separate interest in other portions of such real property. For purposes of this Ordinance, the term "condominium" shall be deemed to include a "stock cooperative" or "planned development."

For planning purposes, the City treats the proposed townhomes as attached single-dwelling units. These are defined in Section 15.04.104.020 as follows:

> *Single Unit Dwelling, Attached.* A dwelling unit that is designed for occupancy by one household located on a single parcel that does not contain any other unit (except a second dwelling unit, where permitted), and is attached through common vertical walls to one or more dwellings on abutting parcel. An attached single-unit dwelling is sometimes called a "**townhouse**" or "zero-parcel line" development.

The proposed subdivision map would subdivide the property into two discontiguous parcels: the current western and central parcels would be merged into a single parcel; the eastern parcel would comprise the second parcel.

The City's development standards for residential zoning districts are promulgated in Article 15.04.201 of the Municipal Code. The proposed townhome-style condominiums are a principal permitted use in the RM1 district. This district is intended for single and multi-family housing types such as one- to three-story garden apartments, historic bungalows and cottages on small lots, townhouses, and stacked flats. A maximum density of 26 dwelling units per acre is permitted, and minimum density of 10 dwelling units per acre is required. The other RM1 standards pertinent to the proposed project are identified below. In addition to residential uses, this district allows for a limited number of public and semi-public uses, such as day care centers, public safety facilities, and residential care facilities that are appropriate in a medium-density, multi-family residential environment. Neighborhood mixed-use development is allowed at neighborhood nodes identified by the Planning Commission. Small lot single unit and bungalow court development is allowed in the RM1 District where it would be compatible with the surrounding neighborhood.

Although Municipal Code Section 15.04.201.010 states that the allowable residential density in the RM1 district is 10 to 25 du/ac, Table 15.04.201.050 indicates an allowable density of 10 to 27 du/ac. Regardless of which standard is applicable, the proposed density of 21.1 du/ac would be within the allowable density.

The RM1 district requires a minimum site area of 5,000 square feet and a minimum lot area per unit of 1,650 square feet, with a minimum lot width of 50 feet. A maximum site coverage of 65 percent is allowed. According to the project plans, the project would provide an average lot area of 2,063 square feet per unit and would have lot coverage of 35.9 percent, meeting these requirements. The setback requirements are 10 feet for the front and side yards, and a rear yard of 20. Project plans indicate that all of the setback requirements would be met throughout the proposed development.

There is a three-story, 35-foot height limit in the RM1 district for the main building, and a 12-foot height limit for accessory structures, such as garages. This secondary height limit may be increased to 14 feet with a peaked roof, and to 16 feet for an accessory dwelling unit with a peaked roof. On primary structures, Municipal Code Table 15.04.601.050 states that parapets may extend an additional 4 feet

above the 35-foot height limit. The proposed three-story townhomes would have a height of 35 feet and parapets with a height of 4 feet, just meeting the applicable height limits.

The RM1 district requires a minimum distance of 6 feet between buildings, which would be readily met by the project. It restricts massing on the third story to 80 percent of the ground floor footprint (the second story may be 100 percent of the ground floor footprint). The proposed townhomes include third-story setbacks (that include the second story, in some cases) that would appear to comply with this requirement, which will be subject to confirmation by the Planning Division during the entitlement process.

The RM1 regulations stipulate the following minimum standards for open space:

- Private open space: 75 square feet per dwelling unit
- Total open space: 150 square feet per dwelling unit
- Additional open space for 3 or more bedrooms 100 square feet of common or private space
- Minimum amount of landscaping 15 percent of total site area
- Maximum paving in street-facing yards: 50 percent

Because all of the proposed townhomes would have at least three bedrooms, a total of 325 square feet of open space would be required per unit, with 75 square feet of that as private open space. With a site area of 206,322 square feet, the project would be required to provide at least 30,948.3 square feet of landscaping. The project proposes a total of 44,626 square feet of landscaped open space, including 25,066 square feet of common open space and 19,560 of private open space. There would be an average of 446 square feet of open space per home, and an average of 195.6 square feet or private open space. Thus, the project would exceed all of these minimum open space standards.

The foregoing discussion is not a comprehensive analysis of all zoning regulations that may be applicable to the proposed project. A comprehensive review will be performed by Planning Staff as part of the development review process. However, based on a review of the project plans, the project appears to conform to all of the zoning regulations described above.

Based on the analysis summarized above, the proposed project would not conflict with the General Plan, zoning regulations, or any other local plans or policies adopted for the purposes of avoiding or mitigating an environmental effect.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *c) Conflict with any applicable habitat conservation plan or natural community conservation plan?* | ☐ | ☐ | ☐ | ☒ |

Explanation: This issue is addressed in Section IV-f.

## XII. 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 of value to the region and the residents of the State?* | ☐ | ☐ | ☐ | ☒ |

Explanation: No regionally significant mineral deposits have been mapped on or in the vicinity of the project site. The site is within a large area classified as Mineral Resource Zone (MRZ) category MRZ-1 by the California Department of Conservation's Division of Mines and Geology (DMG).[83] The MRZ-1 designation is assigned to areas where sufficient data exists for a determination that no significant mineral deposits exist, or where it is judged that there is little likelihood for their presence. Furthermore, the site is surrounded by existing urban development to the north, east, and south, while marshland and San Francisco Bay lie to the west, on the other side of nearby Interstate 580. In this context, large-scale mineral extraction would not be practical even if mineral resources were present on the site. Finally, the State Geologist would not consider these deposits to be regionally significant. As stated in the DMG report published with the MRZ maps for the Bay Area, mineral lands located within areas that have already been urbanized are not considered viable for extraction, and are deemed incompatible.[84] Therefore, the project would have **no impact** on the availability of mineral resources.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) 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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The Richmond General Plan does not identify any local mineral resources in the project vicinity, and the Richmond General Plan EIR reports that the City's significant sectors of sandstone and shale aggregates are located in the San Pablo-Potrero Hills Ridge Area, well away from the project site. The EIR discussion is based on the mineral resource zones mapped by the DMG, discussed in Section XI-a, above. The map of geology and mineral resource sectors presented in the General Plan EIR indicates that the project site is underlain by alluvium.[85] For the reasons set forth in Section XI-a,

[83] California Department of Conservation, Division of Mines and Geology, *Update of Mineral Land Classification: Aggregate Minerals in the South San Francisco Bay Production-Consumption Region,* Generalized Mineral Land Classification Map of the South San Francisco Bay Production-Consumption Region (Plate 1 of 29), 1996.

[84] California Department of Conservation, Division of Mines and Geology, *Update of Mineral Land Classification: Aggregate Materials in the South San Francisco Bay Production-Consumption Region*, Concepts Used in Identifying Available Aggregate Resources (page 7), 1996.

[85] City of Richmond, *Richmond General Plan Draft Environmental Impact Report*, Figure 3.7-1: Geology and Mineral Resource Sectors, February 2011.

there is no potential for the project to have an adverse effect on the availability of significant mineral resources.

## XIII. 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?* | ☐ | ☒ | ☐ | ☐ |

Explanation: Similar to most jurisdictions, Richmond's regulation of noise is based on commonly-employed noise parameters that are based on the fundamental metric of a decibel (dB), which is a unit of sound energy intensity caused by rapid fluctuation of air pressure as sound waves travel outward from a source. Decibels are logarithmic units that compare the wide range of sound intensities to which the human ear is sensitive, with 0 dB corresponding roughly to the threshold of hearing.

A frequency weighting measure, which simulates human perception, is commonly used to describe noise environments and to assess impacts on noise-sensitive areas. A-weighting of sound levels best reflects the human ear's reduced sensitivity to low and extremely high frequencies, and correlates well with human perceptions of the annoying aspects of noise. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. The A-weighted decibel scale (dBA) is cited in most noise criteria, including Union City's General Plan and Municipal Code standards.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are equivalent A-weighted sound level over a given time period ($L_{eq}$);[86] average day-night 24-hour average sound level ($L_{dn}$)[87] with a nighttime increase of 10 dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL),[88] also a 24-hour average that includes both an evening and a nighttime weighting. Peak noise levels, such as train pass-bys or operation of heavy-duty construction equipment, are often described as the highest instantaneous noise measurement during any measurement period ($L_{max}$).

Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45-60 dBA range, and high above 60 dBA. Outdoor day/night sound levels ($L_{dn}$) vary over 50 dBA, depending on the specific type of land use. The $L_{dn}$ noise levels average approximately 35 dBA in wilderness areas, 40 to 50 dBA in small towns or wooded residential areas, 75 dBA in major metropolis downtown areas, and 85 dBA near major freeways and airports. Although people often accept the

[86] The Equivalent Sound Level ($L_{eq}$) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

[87] $L_{dn}$ is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a ten-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

[88] CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse levels of noise with respect to public health.

### *Applicable Noise Regulations*

The proposed residential townhome development would be considered a noise-sensitive land use, as indicated by Action SN4.C of the Public Safety and Noise Element of the *Richmond General Plan 2030*. The General Plan establishes acceptable limits of noise for this and other land use types. For multi-family residential uses, which is assumed to include townhomes, a CNEL up to 65 dBA is a "normally acceptable" noise environment, assuming the buildings involved are of normal, conventional construction, without any special noise insulation. CNEL noise levels between 60 and 70 dBA are considered "conditionally acceptable," whereby the new development should be undertaken only after a detailed noise analysis that identifies necessary noise insulation features to meet acceptable indoor and outdoor noise levels. Ambient noise levels of 70 to 75 dBA are considered "normally unacceptable," though development may be allowed with sufficient noise reduction.

Richmond also regulates noise with its Community Noise Ordinance, promulgated at Municipal Code Chapter 9.52. The ordinance declares it to be the policy of the City "to provide for the public health, safety, and welfare by discouraging unwanted and unnecessary, noise of all types, and by protecting the public from nonconsensual exposure to community noise in and around the City of Richmond." The ordinance empowers the Police Department to investigate complaints of noise disturbance and noise sources that meet the criteria for noise disturbance.

Chapter 9.52 establishes noise performance standards for community noise sources; Section 9.52.100 sets a maximum exterior noise level of 55 dBA $L_{max}$ in single-family and multi-family residential zoning districts. This noise level is not to be exceeded for more than 30 minutes in any hour, as measured at the property line of the property from which the noise emanates. Section 9.52.100 also states that the exterior noise limits for any source of noise within any residential zone shall be reduced by 10 dBA between 10:00 p.m. and 7:00 a.m. These standards would also apply to any stationary equipment, such as heating, ventilation, and air conditioning (HVAC) equipment. Exceeding these noise limits would result in a potentially significant noise impact from project operations. In addition, a potentially significant operational noise impact would occur if interior noise levels in habitable rooms would exceed 45 dB CNEL during project operations. This is based on California Code of Regulations (CCR) Title 24, Chapter 12, Section 1207, which mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB, $L_{dn}$ or CNEL in any habitable room. This performance standard protects persons within new buildings that house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings.

Chapter 9.52 of the Municipal Code also regulates construction noise. Similar to most jurisdictions in California, Richmond does not generally treat short-term construction noise as a significant impact if it complies with the limits on construction hours established by Municipal Code Section 9.52.110. The ordinance limits construction activity to the hours of 7:00 a.m. to 7:00 p.m. weekdays, and to the hours between 9:00 a.m. and 8:00 p.m. on weekends and holidays.

The Noise Ordinance also states that "where technically and economically feasible," temporary construction activity shall be conducted in such a manner that the maximum sound levels at affected properties shall not exceed the maximum sound level thresholds established in the Noise Ordinance. Table NOI-1 shows maximum allowable noise levels for mobile and stationary construction equipment. Note that these limits apply to the receiving property, and the limits for multi-family residential land use are listed because the area to the south of the project consists predominantly of multi-family residential development.

**Table NOI-1**

**Construction Maximum Allowable Noise Levels ($L_{max}$)**

| Time Period | Noise Limits in Multi-Family Residential Zoning District |
|---|---|
| **Mobile Construction Equipment** | |
| Weekdays, 7:00 a.m. to 7:00 p.m. | 80 dBA, $L_{max}$ |
| Weekends and holidays, 9:00 a.m. to 8:00 p.m. | 65 dBA, $L_{max}$ |
| **Stationary Construction Equipment** | |
| Weekdays, 7:00 a.m. to 7:00 p.m. | 65 dBA, $L_{max}$ |
| Weekends and holidays, 9:00 a.m. to 8:00 p.m. | 60 dBA, $L_{max}$ |

*SOURCE: Richmond Municipal Code, Section 9.52.110*

Municipal Code Section 9.52.060 includes the following requirements for construction equipment that are relevant to the project:

- All construction equipment powered by internal combustion engines shall be properly muffled and maintained.
- Unnecessary idling of internal combustion engines is prohibited.
- All stationary noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences.
- Quiet construction equipment, particularly air compressors, are to be selected whenever possible.
- Use of pile drivers, sources of impulsive sound and jack hammers shall be prohibited on Sundays and holidays, except for emergencies or as approved in advance by the Building Official.

### *Existing Noise Sources and Levels*

Veneklasen Associates completed a noise analysis of the project site in August 2020.[89] To quantify existing ambient noise levels, Veneklasen conducted two long-term and several short-term (10-minute) noise measurements at the project site. RCH Group supplemented the measurements in April and May 2021 with two long-term (72-hour) and several short-term (10-minute) noise measurements at the project site. Table NOI-2 summarizes the locations and results of both sets of noise measurements taken at the project site, while Figure NOI-1 shows the locations of noise measurement locations. The main source of noise during short-term noise measurements was traffic noise from Interstate 580 (I-580), noise from Interstate 80 (I-80), train horns, vehicles operating at American Soil (commercial land use to the north) and nearby street traffic.

[89] Veneklasen Associates, *Richmond Site B, Richmond, California, Exterior Noise and Exterior Façade Analysis,* Veneklasen Project No. 4616-023, August 21, 2020.

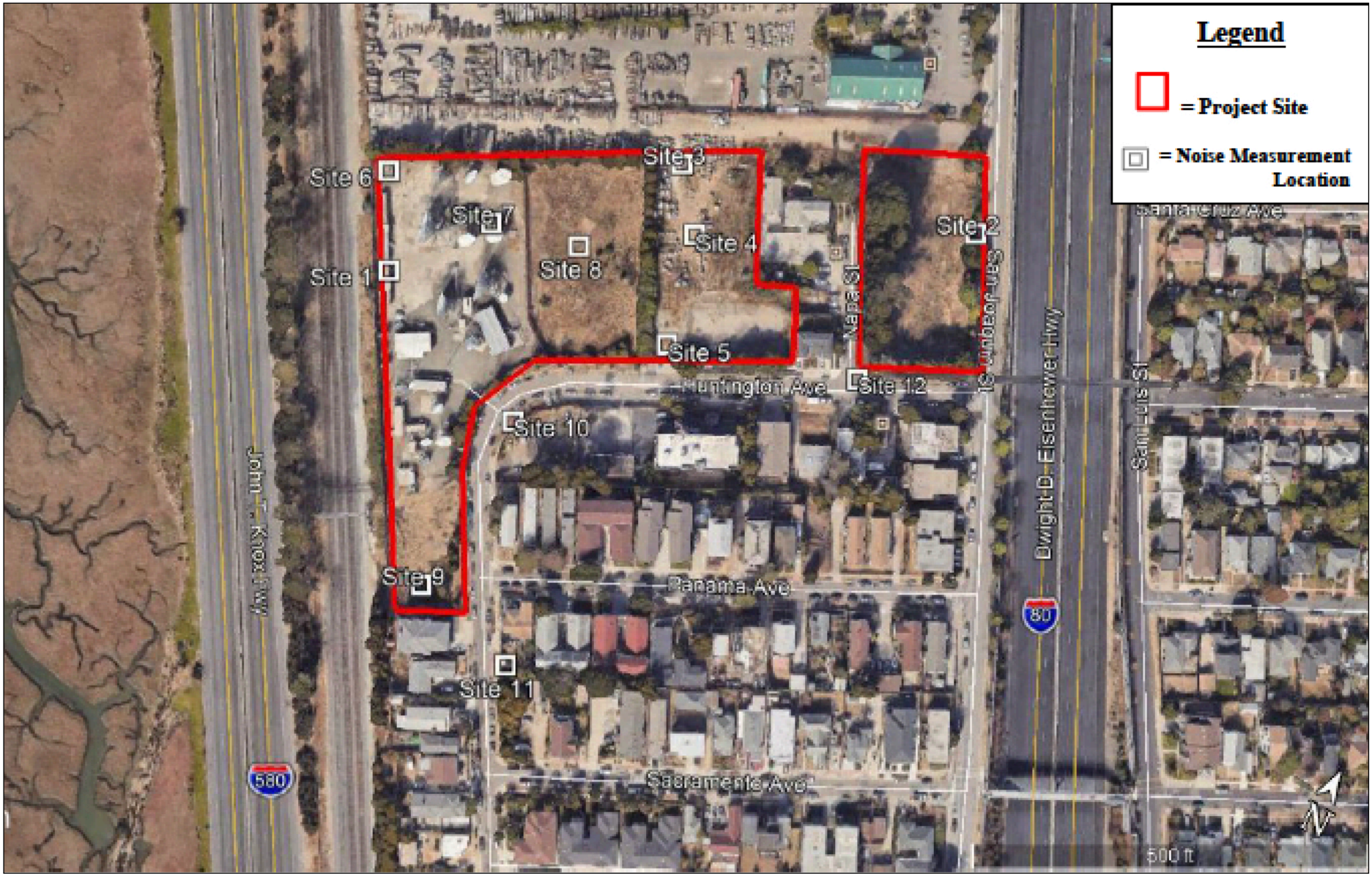


**Figure NOI-1**

Noise Measurement Locations

Source: RCH Group, 2021

## Table NOI-2
## Existing Noise Levels

| Location | Time Period | Noise Levels (dB) | Noise Sources |
|---|---|---|---|
| **Site 1:** West property line of the project site, approximately 80 feet east of rail line. | April 29, 12:00 a.m. Through May 1, 11:59 p.m., 2021<br>Thursday – Saturday<br>72-hour measurement. | Hourly Leq's ranged from:<br>58-72<br><br>CNELs: 73,74,71 | Unattended noise measurements do not specifically identify noise sources. |
| **Site 1:** West property line of the project site, approximately 80 feet east of rail line. | Wednesday April 28, 2021<br>11:41: a.m. to 11:51 a.m. | Hourly Leq's ranged from:<br>60-71<br><br>CNELs: 73,73, | Constant traffic from Interstate 580 60-66 dB. |
| **Site 1:** West property line of the project site, approximately 80 feet east of rail line | August 17, 10:30 a.m. Through August 20, 12:00 p.m., 2020<br>72-hour measurement. | Hourly Leq's ranged from:<br>60-71 | Unattended noise measurements do not specifically identify noise sources. |
| **Site 2:** East property line of the project site, approximately 25 feet west of San Joaquin Street. | April 29, 12:00 a.m. Through May 1, 11:59 p.m., 2021<br>Thursday – Saturday<br>72-hour measurement. | Hourly Leq's ranged from:<br>55-69<br><br>CNELs: 67,68,67 | Unattended noise measurements do not specifically identify noise sources. |
| **Site 2:** East property line of the project site, approximately 25 feet west of San Joaquin Street. | August 17, 11:00 a.m. Through 3:00 p.m., 2020<br>4-hour measurement. | Hourly Leq's ranged from:<br>64-66 | Unattended noise measurements do not specifically identify noise sources. |
| **Site 2:** East property line of the project site, approximately 25 feet west of San Joaquin Street. | Monday May 1, 2021<br>10:19 a.m. to 10:29 a.m. | 5-minute Leq's:<br>68, 68 | Large truck on San Joaquin Street 75 dB, Pedestrians running 69 dB, Heavy Utility Vehicles 69-74 dB. |
| **Site 3:** Northern interior of project site, south of industrial yard. | Monday August 17, 2020<br>12:08 p.m. to 12:23 p.m.<br>1:57 p.m. to 2:12 p.m. | 5-minute Leq's:<br>55, 57, 59, 53, 54, 56 | Heavy Utility Vehicles moving rocks, 70 dB. |
| **Site 4:** Interior of the project site, approximately 75 feet west of nearest residence on Dalai Lama Ave. | Wednesday April 28, 2021<br>9:57 a.m. to 10:07 a.m. | 5-minute Leq's:<br>54, 54 | Overhead plane 60 dB, Loud horn nearby 60 dB, Distant train noise 59 dB. |
| **Site 5:** South property line of project site. | Wednesday April 28, 2021<br>10:07 a.m. to 10:17 a.m. | 5-minute Leq's:<br>57, 57 | Train horn on west rail line 70 dB, Distant operations at American Soil, 55dB. |

| | | | |
|---|---|---|---|
| **Site 6:** Northwestern edge of project site, adjacent to American Soil Company. | Wednesday April 28, 2021<br>10:21 a.m. to 10:31 a.m. | 5-minute Leq's:<br>67, 68 | Constant traffic on Interstate 580 69-75 dB. |
| **Site 7:** Western interior of project site. | Wednesday April 28, 2021<br>11:30 a.m. to 11:40 a.m. | 5-minute Leq's:<br>62, 62 | Traffic on Interstate 580 59-62 dB, distant noise at nearby residences 54 dB. |
| **Site 8:** Central interior of project site. | Wednesday April 28, 2021<br>11:20 a.m. to 11:30 a.m. | 5-minute Leq's:<br>61, 61 | Traffic on Interstate 580 60-63 dB. |
| **Site 9:** Southwestern corner of project site, adjacent to nearest residence on Dalai Lama Ave. | Wednesday April 28, 2021<br>11:54 a.m. to 12:04 p.m. | 5-minute Leq's:<br>64, 64 | Traffic on Interstate 580 60-63 dB. |
| **Site 10:** Residential area adjacent to western portion of project site. | Wednesday April 28, 2021<br>11:05 a.m. to 11:15 a.m. | 5-minute Leq's:<br>63, 61 | Cars on Dalai Lama Ave 60-64 dB, Distant dog barks 55 dB, birds 50 dB. |
| **Site 11:** Residences on Columbia Ave, approximately 85 feet south of project site. | Wednesday April 28, 2021<br>12:31 p.m. to 12:41 p.m. | 5-minute Leq's:<br>61, 61 | Neighbor sawing wood 69 dB, Distant yard work 55 dB. |
| **Site 12:** Intersection of Dalai Lama Ave and Napa St. | Monday May 1, 2021<br>10:36 a.m. to 10:46 a.m. | 5-minute Leq's:<br>57, 59 | Cars on Dalai Lama Ave 59-63 dB, neighbors mowing lawn 58 dB, dogs 57 dB. |
| Source: RCH Group 2021. | | | RCHGROUP |

### *Existing Sensitive Receptors*

There are single-family residences and multi-family apartments nearby the site. There is one residence on Columbia Boulevard that is approximately 25 feet southwest of the project site. There is another residence on Napa Street between the central and east parcels of the project site that is within approximately 25 feet of the project site boundary.

### *Construction Noise Impacts on Nearby Residences*

Demolition and construction activities are estimated to begin January of 2022 and be completed in November 2024. Demolition activities would include short-term, noise-intensive demolition of the existing concrete pads on the western boundary of the project site. Construction and demolition activities would require the use of numerous pieces of noise-generating equipment, such as excavating machinery (e.g., backhoes, excavators, front loaders, etc.) and other construction equipment (e.g., compactors, pavers, concrete mixers, trucks, etc.).

Demolition and construction activities would occur during the City's permitted construction hours set forth in the Community Noise Ordinance (Chapter 9.52). The Noise Ordinance exempts noise from construction activities that take place between the hours of 7:00 a.m. to 7:00 p.m. on weekdays and between the hours of 9:00 a.m. and 8:00 p.m. on Saturdays and Sundays and legal holidays.

The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment and the prevailing wind direction. The maximum noise levels at 50 feet for various types of construction equipment that could be used during construction are provided in Table NOI-3.[90]

**Table NOI-3**

**Representative Noise Levels for Construction Equipment**

| Construction Equipment | Noise Level at 50 feet (dBA $L_{max}$) |
|---|---|
| Dump Truck | 76 |
| Air Compressor | 78 |
| Backhoe | 78 |
| Bulldozer | 82 |
| Compactor (ground) | 83 |
| Crane | 81 |
| Jackhammer | 81 |
| Excavator | 74 |
| Flat Bed Truck | 77 |
| Paver | 85 |
| Grader | 81 |
| Generator | 80 |
| Roller | 80 |
| Vibratory Concrete Mixer | 79 |
| Concrete Mixer Truck | 79 |
| Front End Loader | 76 |

*SOURCE: Federal Highway Administration, 2006*

The nearest residences are within approximately 25 feet of the project site. At these distances, It is expected that mobile construction equipment could periodically exceed the mobile construction threshold of 80 dBA $L_{max}$, which would be a ***potentially significant impact***. Implementation of Mitigation Measure NOI-1 would reduce construction impacts to less-than-significant.

[90] Federal Highway Administration (FHWA), *Roadway Construction Noise Model User's Guide*, 2006.

**Mitigation Measure NOI-1:** The following measures shall be implemented to reduce noise impacts to nearby residential receptors due to construction activity:

- Prior to construction activities, the City shall designate a Construction Noise Coordinator who would be responsible for responding to any local complaints about construction noise and vibration. The Construction Noise Coordinator shall determine the cause of the complaint and shall require implementation of reasonable measures to correct the problem. The telephone number for the Construction Noise Coordinator shall be conspicuously posted at the construction site.
- At least three weeks prior to the start of construction activities, the City shall provide written notification to all nearby residential units within 500 feet of the construction site informing them of the estimated start date and duration of construction activities.
- If stationary construction equipment would cause a substantial noise impact, it shall be located as far away from sensitive residences as necessary to reduce noise to acceptable levels and/or be equipped with engine-housing enclosures.

### *Potential Operational Noise Impacts on Project Residences*

As shown in Table NOI-2, the existing 24-hour noise levels at noise monitoring Site 1 are 73 to 74 dBA CNEL on the west side of the project site. The west area has high noise levels generated by I-580 and the adjacent rail line. The current site plan includes a concrete masonry sound wall, with a minimum height of 8 feet, that is proposed to cover the entire west and north property lines. The sound wall would reduce noise levels by approximately 8 dBA. Based on existing noise measurements at Site 1, the noise levels in the western area would be reduced from the current level (73-74 dBA CNEL) to approximately 65-66 dBA CNEL.

The current noise level on the western parcel of 73-74 dBA CNEL is considered by the General Plan to be “Normally Unacceptable” for multi-family residences. With the noise reduction from the sound wall, the resulting noise level (65-66 dB, CNEL) would be “Conditionally Acceptable.”

The existing 24-hour noise levels at noise monitoring Site 2 are 67 to 68 dBA CNEL on the eastern end of the project site. The east area has relatively high noise levels generated by traffic on San Joaquin Street and I-80. However, the current noise level is considered by the General Plan to be “Conditionally Acceptable” for multi-family residences. Therefore potential operational noise impacts on project residences would be a ***less-than-significant impact*.**

### *Potential Operational Noise Impacts on Nearby Residences*

Operation of the project would generate a negligible amount of noise, primarily by passenger vehicles of the residents and their visitors, delivery trucks, and maintenance/service vehicles arriving to and departing from the townhome residences. Periodic maintenance of landscaping could generate short-term elevated noise levels, such as during operation of a lawn mower or leaf blower. Residents playing sports or engaging in other recreational activities would be another periodic source of noise. These noise sources are common to all residential development, and are not considered noise disturbances subject to regulation. Once constructed, the noise from the project site generated by these sources could occasionally exceed the 55 dBA $L_{max}$ threshold as measured at the property line. However, noise

generated from the project would be less than the existing noise environment, which has high noise levels from I-80, I-580, neighboring land uses, the rail line west of the project site, and vehicles on Dalai Lama and Columbia Avenue. So the existing noise would effectively mask the limited noise expected from the proposed residences. After construction, the new residences would generate minimal noise compared to the existing background noise levels. Therefore, potential noise impacts on nearby residences from project operations would be a ***less-than-significant impact.***

The current project design includes HVAC equipment for the proposed residences. Noise generated by HVAC varies significantly depending on the equipment type, capacity, location, and enclosure design. Noise levels up to 60 dBA at a distance of 15 feet are typical for HVAC equipment.[91] It is assumed that the HVAC equipment would be designed and constructed to meet nighttime noise standards of 60 dBA $L_{eq}$ (levels not to be exceeded more than 30 minutes in any hour) between 7:00 a.m. and 10:00 p.m. and 55 dBA $L_{eq}$ between 10:00 p.m. and 7:00 a.m., as required by Municipal Code Section 15.04.605.100, and would not conflict with the Richmond Community Noise Ordinance. Therefore, noise impacts from stationary equipment from the project on nearby residences would result in a ***less-than-significant impact.***

***Potential Interior Noise Impacts on the Proposed Residences***

Based on a detailed analysis of the project site's noise environment and the location of the proposed buildings, feasible recommendations were provided by Veneklasen Associates to reduce exterior noise levels to acceptable interior noise levels of 45 dBA CNEL or less in all interior habitable rooms. Those recommendations, which include upgraded sound-rated windows and doors, are provided in the Noise Appendix (Appendix B). The project applicant has agreed to incorporate the Veneklasen recommendations into the project. Therefore, interior noise levels at the proposed residences would meet the State's 45-dBA interior noise standard, and noise impacts on future project residents would be a ***less-than-significant impact.***

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Generation of excessive groundborne vibration or groundborne noise levels?* | ☐ | ☐ | ☒ | ☐ |

Explanation:

***Potential Vibration Impacts from Construction Activities on Nearby Residences***

Construction and demolition activities have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. In most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures.[92] Vibrational effects from typical construction activities are only a concern within 25 feet of existing structures.[93] The project would not include pile drivers or blasting. The project would demolish the existing concrete pads using conventional demolition techniques with bulldozers, jackhammers, and other typical construction equipment. The ground vibration levels associated with

[91] Illingworth & Rodkin, *Walmart Expansion, Williamson Ranch Plaza, Environmental Noise Assessment*, 2009.

[92] California Department of Transportation (Caltrans), *Transportation and Construction Vibration Guidance Manual*, September 2013.

[93] California Department of Transportation (Caltrans), *Transportation Related Earthborne Vibrations, February,* 2002.

various types of construction equipment expected to be used for construction and demolition activities are summarized in Table NOI-4.

At the highest levels of vibration, construction/demolition damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage. For most structures, a peak particle velocity (PPV) threshold of 0.5 inch per second or less is sufficient to avoid structural damage. The Federal Transit Administration recommends a threshold of 0.5 PPV for residential and commercial structures to avoid architectural damage.[94]

As shown in Table NOI-4, the predicted vibration levels from typical construction equipment at 25 feet (the closest location of project construction to any structures) would be less than the 0.5-PPV threshold for potential architectural damage to residential and commercial structures. Therefore, construction of the proposed project would have a ***less-than-significant impact*** due to vibration from heavy equipment. Following completion of construction, there would be no operational generation of vibration.

**Table NOI-4**

**Representative Vibration Source Levels for Construction Equipment**

| Construction Equipment | Peak Particle Velocity (PPV) at 25 feet (inches/second) |
|---|---|
| Small Bulldozer | 0.003 |
| Jackhammer | 0.035 |
| Rock Breaker | 0.059 |
| Loaded Trucks | 0.076 |
| Auger Drill Rig | 0.089 |
| Large Bulldozer | 0.089 |

*SOURCE: Federal Transit Administration, 2006*

***Potential Vibration Impacts from Train Pass-by Events on the Proposed Residences***

The rail line to the west of the project site has approximately 60 daily train pass-by events. The rail line would be approximately 60 feet from the closest proposed residences. The Federal Transit Administration's (FTA) vibration assessment manual provides recommended ground-borne vibration thresholds for projects, based on the frequency of events (i.e., train passbys) and the affected land use category.[95] This project site is typical of occasional events (30 to 70 events per day) and residences are the affected land use. With approximately 60 train passby-related events per day, the applicable vibration threshold would be 75 vibration decibels (VdB).[96] During long-term (approximately 72 hours) vibration measurements on the western perimeter of the project site at noise monitoring

[94] Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment* (FTA-VA- 90-1003-06), 2006.

[95] Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, FTA Report No. 0123, September 2018.

[96] Veneklasen, *op cit.*

Site 1, the maximum ground-borne vibration level recorded was 70 VdB. Based on the results from the long-term vibration measurements taken on the project site, the maximum train vibration level does not exceed the 75 VdB threshold. See the Appendix B for additional description of train vibration measurements. Therefore, vibration impacts on project residences from train pass-by events would result in a ***less-than-significant impact*.**

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The project site is not within the vicinity of a private airstrip or an airport land use plan, or within 2 miles of a public use airport. The project site is located approximately 17 miles north from Oakland International Airport and approximately 23 miles west of Buchanan Field Airport. There is no potential for operations at these airports to expose future project residents to excessive aircraft noise. There would be ***no impact*** from airport noise.

## XIV. 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)?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The proposed project would create 100 new townhome residences, with the potential to draw new residents to Richmond. Based on California Department of Finance date, Richmond has an average household size of 2.93 persons.[97] Thus, the proposed project could potentially increase the City's population by approximately 293 people, though some project residents would likely already be residents of the City who would relocate to the future residences. If it is conservatively assumed that all project residents would be new residents to Richmond, the project would increase the City's population by about 0.26 percent, based on the City's 2021 population of 110,130 people.[98] This would not represent substantial population growth. Furthermore, the site has a General Plan land use designation of CMU – Medium Intensity Mixed-Use (Commercial Emphasis), which allows a residential density of up to 50 dwelling units per acre (du/ac), while the proposed project would result in a density

[97] California Department of Finance, Table 2: E-5 City/County Population and Housing Estimates, 1/1/2021, May 2021.

[98] *Ibid.*

of 21.1 du/ac. Thus, the City has previously designated the site for residential development at a higher density than is proposed, and the potential population from development of the site has been factored into long-range planning both by the City of Richmond and by the Association of Bay Area Governments (ABAG). Therefore, while the project would induce incremental population growth, it would not be unplanned growth. Implementation of the project would have a ***less-than-significant impact*** on population growth.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?* | ☐ | ☐ | ☐ | ☒ |

Explanation: No existing housing would be displaced as a result of the project.

**XV. PUBLIC SERVICES** - *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:*

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *a) Fire protection?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Fire response to the project site would be provided by the Richmond Fire Department (RFD), which operates seven stations located throughout the City of Richmond's geographical area of 56 square miles. The Department currently has a staff of 90 sworn personnel and 5 non-sworn administrative staff.[99] In 2017, the most recent year for which data was provided, the Department responded to 12,890 calls for service, including 8,239 medical emergencies and 795 fires. The General Plan EIR reported that in 2009 the Department had an acceptable staffing ratio of 1 fire personnel per 4,200 residents. All personnel are trained as Emergency Medical Technicians to the level of EMT-D and HazMat First Responder Operational.

The nearest fire station to the project site is Station No. 64, located at 4801 Bayview Avenue, approximately 1.1 miles to the northwest. Given this distance, response time to the site in the event of an emergency would normally be well under 6 minutes, within the Department's response time goal established in the General Plan of responding to 85 percent of emergency calls within 6 minutes or less. Supplemental response could come from RFD Station No. 67, located at 1131 Cutting Boulevard, approximately 2.8 miles northwest of the project site.

[99] Richmond Fire Department, Department Facts, accessed May 21, 2021 at: http://ci.richmond.ca.us/1483/Department-Facts.

The General Plan EIR reported that the RFD's Citywide average response time in 2009 was 5 minutes for emergency and non-emergency calls for service. The EIR evaluated the potential impact on the City's fire protection services that could result from buildout of the General Plan. The EIR concluded that implementation of the General Plan would increase the demand for fire protection and emergency services, but would not reduce the level of protection. The impact analysis noted that the City requires proposed new structures to meet the California State Fire Code and City building requirements, which further reduces potential impacts on fire protection services. In addition, new development is required to pay development impact fees as established by City ordinance, which provide funding for public facilities, including fire facilities. The General Plan EIR concluded that the potential impact on the City's fire protection services would be less than significant. Buildout of the General Plan, as analyzed in the General Plan EIR, was based on the City's land use diagram as well as the maps of the City's change areas. The land use diagram assigns a Medium Intensity Mixed-Use (Commercial Emphasis) land use category to the project site, which allows residential density of up to 50 dwelling units per acre (du/ac). The General Plan EIR assumed development of the site at the maximum allowable intensity. Because the proposed project would have a density of 21.1 du/ac, less than half the allowable development intensity for the site, the project's potential impact on fire protection and emergency services was previously analyzed in the General Plan EIR.

The proposed project would not result in a new or substantially more severe impact than was already disclosed in General Plan EIR. Therefore, the project's potential impact on fire protection services would be ***less than significant***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Police protection?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Police protection would be provided to the project by the Richmond Police Department (RPD), which operates out of a central station at 1701 Regatta Boulevard and has a force of 145 sworn officers and 54 civilians.[100] In 2020, the RPD responded to 82,599 calls for service, taking 11,523 reports and making 2,196 arrests.[101] The General Plan EIR reported that the RPD had an average response time in 2009 of 6 minutes and 43 seconds for Priority 1 calls—such as shootings, robberies, burglaries, and assaults—and 14 minutes and 50 seconds for Priority 2 calls.[102]

Similar to the preceding discussion on fire protection services, development of the project site with residential and/or commercial uses was included in the General Plan update evaluated in the General Plan EIR. The General Plan EIR found a less-than-significant impact on police protection services would result from implementation of the General Plan. The anticipated increase in the intensity of development would not result in an increase in response times for various calls to the RPD for service because adopted City policies require regular monitoring of response times and increases in facilities, equipment, and/or personnel, as needed.

The proposed project is consistent with the project previously evaluated in the General Plan EIR. It would not result in a new or substantially more severe impact than was already disclosed in General

[100] Richmond Police Department, Budget Presentation, Staffing 2015-Present, March 10, 2021.

[101] Richmond Police Department, Reimagining Public Safety Community Task Force Meeting, 2020 At a Glance, January 13, 2021.

[102] City of Richmond, *Richmond General Plan 2030 Draft Environmental Impact Report,* Section 3.12: Public Services, Police Protection, February 2011.

Plan EIR. Therefore, the project's potential impact on police protection services would be ***less than significant***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *c) Schools?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The project would create 100 new housing units, potentially increasing the population of the City of Richmond by approximately 293 people, as discussed in Section XIV-a. This new population would include school-age children who would incrementally increase demand for school services in the City of Richmond.

Public school services in the City of Richmond are provided by the West Contra Costa Unified School District (WCCUSD), which serves the cities of Richmond, El Cerrito, San Pablo, Pinole, and Hercules and the unincorporated areas of Bayview-Montalvin Manor, East Richmond Heights, El Sobrante, Kensington, North Richmond and Tara Hills. WCCUSD operates 38 elementary schools, six middle schools, nine high schools, two adult education schools, and other education programs.[103] Within the City of Richmond, the WCCUSD operates 25 public schools and two adult schools.

The WCCUSD currently utilizes the following student generation rates for new residential development to determine the impact of new development on schools:[104]

| Grade Group | Students Per Household |
|---|---|
| TK–6 | 0.081 |
| 7–8 | 0.024 |
| 9–12 | 0.026 |
| **Total** | **0.131** |

Based on these generation rates, the proposed project could generate eight elementary school students, less than three middle school students, and less than three high school students. The actual number could be lower because this assumes that all residents of the project would be new residents to the City of Richmond and the WCCUSD, whereas some residents would likely be existing Richmond residents (or residents elsewhere in the WCCUSD) relocating to the project.

Students living in the proposed townhomes would be served by the following schools:

- Fairmont Elementary School, 724 Kearney Street, El Cerrito
- Fred T. Korematsu (formerly Portola) Middle School, 7125 Donal Avenue, El Cerrito
- Kennedy High School, 4300 Cutting Boulevard, Richmond

[103] West Contra Costa Unified School District, Schools Directory, accessed May 22, 2021 at: https://www.wccusd.net/domain/96.

[104] School Facility Consultants, for the West Contra Costa Unified School District, *School Facility Justification Report for Residential, Commercial & Industrial Development Projects*, Table 1-7: Student Generation Rates, June 2020.

After previously declining for a number of years, District-wide enrollments have been increasing in recent years. District-wide enrollment was 32,350 pupils in the 2015/2016 school year, and had climbed to 34,536 pupils in the 2019/2020 school year.[105] As of the 2019/2020 school year, the District was operating at over 100-percent capacity in all grade groupings; it had an average utilization of 141.2 percent of capacity across all of its schools, with a total of 10,072 unhoused students.[106] In order to provide facilities for the unhoused students, the District plans to reconstruct K-6 Schools and 9-12 Schools on current school sites, and convert K-6 schools into K-8 Schools. In addition, the District may lease additional portable classrooms to for use as interim housing while permanent facilities are being constructed.

With the potential to generate roughly 13 new students, the proposed project would incrementally add to the over-enrolled WCCUSD. While 13 students would not in and of themselves require the construction of new school facilities, they would exacerbate the District's need for new facilities. However, pursuant to Senate Bill 50, which became effective in 1998, payment of the School Facilities Mitigation Fee has been deemed by the State legislature to be full and complete mitigation for the impacts of a development project on the provision of adequate school facilities. The proposed project would be required to pay the applicable School Facilities Mitigation Fee, which is based on the number of new housing units developed and/or the square footage of new commercial development. In 2020 the fee for new residential development was $4.08 per square foot.[107] The project would be required to pay the current fees, which are typically increased incrementally each year. In accordance with SB 50, payment of the fees would ensure that the project would have a ***less-than-significant impact*** on schools.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *d) Parks?* | ☐ | ☐ | ☒ | ☐ |

Explanation: According to the General Plan, the City of Richmond owns and operates 74 public parks, play lots, and other recreational facilities. Parks range from small pocket parks to large community parks, encompassing a total of 777 acres, with an additional 32 acres of joint-use parks at school sites and other community facilities.[108] There are also 5,718 acres of regional and State parks in the City of Richmond, including Point Isabel Regional Shoreline, a 43-acre park located less than 900 feet west of the project site that also includes Point Isabel Dog Park. The City's recreational facilities include eight community centers, two senior centers, a swim center, an indoor recreation complex, and a municipal natatorium, the Plunge. In addition to publicly owned and operated recreational facilities, several private facilities are located in Richmond including the Richmond Country Club, Marina Bay Yacht Harbor, Richmond Yacht Club Harbor, YMCA, Police Activities League, the Boys and Girls Club and Red Rock Marina.

While there are no City parks within a quarter-mile of the project site, there are a dozen parks owned and operated by the City of Richmond within 2 miles of the site, encompassing a mix of compact, neighborhood, and community parks. They include the following:

[105] *Ibid*, Table 1-1: District Enrollment History.

[106] *Ibid*, Table 1-4: 2019/20 Classroom Utilization, and Table 1-5: District Facility Needs/Unhoused Students.

[107] School Facility Consultants, *op cit*., Executive Summary.

[108] City of Richmond, *Richmond General Plan 2030*, Parks and Recreation Element, April 25, 2012.

- **Huntington Park**, at Carlson Boulevard and Huntington Avenue (0.33 mile northeast of site)
- **Mendocino Park**, at Mendocino Street and Burlingame Avenue (0.44 mile northeast of site)
- **Central Park**, at Central Avenue and Yolo Avenue (0.45 mile southeast of site)
- **Monterey Playlot**, at Monterey Street and Carl Avenue (0.5 mile northwest of site)
- **Crescent Park**, at Hartnett Avenue and Bayview Avenue (0.82 mile northwest of site)
- **Booker T. Anderson Park**, at Carlson Boulevard and South 47th Street (0.96 mile northwest of site)
- **State Court Park**, at the end of State Court (1.31 miles northwest of site)
- **Abraham Braxton Park**, at South 50th Street and Plaza Circle (1.31 miles northwest of site)
- **Shimada Friendship Park**, at Peninsula Drive and Marina Bay Parkway (1.5 miles west of site, as the crow flies)
- **John F. Kennedy Park**, at Cutting Boulevard and South 41st Street (1.61 miles northwest of site)
- **Marina Bay Park**, at Regatta Boulevard and Marina Bay Parkway (1.68 miles west of site, as the crow flies)
- **Barbara and Jay Vincent Park**, at the end of Peninsula Drive (1.87 miles northwest of site, as the crow flies)

In addition, the following El Cerrito and Albany parks are near the project site:

- **Fairmont Park**, at Liberty Street and Eureka Avenue, El Cerrito (0.63 mile east of site)
- **Albany Hill Park**, end of Taft Street, Albany (0.7 mile southeast of site)
- **Creekside Park**, end of Taft Street, Albany (0.74 mile southeast of site)

As these lists demonstrate, the project site is well served by local and regional parks. While it could be expected that the project's residents would utilize some of these parks, the incremental demand from 293 residents would not be significant. Usage of parks by project residents would be dispersed, sporadic, and only encompass a fraction of the project's total residents. This incremental increase in park usage would not require the provision of new or physically altered park facilities, and therefore would not lead to construction that could cause significant environmental impacts. Furthermore, the project is consistent with the General Plan and its effects on parks were therefore previously addressed in the General Plan EIR.

The proposed project does not include any public parkland, though it would provide 25,066 square feet of common open space. The project applicant would therefore be required to pay the City's Park In-Lieu Fee, required by the Parkland Dedication Ordinance codified in Municipal Code Section 15.04.708.030. The ordinance requires the provision of 0.0108 acre of dedicated park land per townhome unit or payment of an in-lieu fee, or a combination thereof. The fee is based on an equivalent value of the land that is prescribed for dedication. The ordinance states that land proposed for "recreational community gardening" may be counted toward the required parkland. It is therefore likely that the project's proposed community garden will qualify for a corresponding reduction in the in-lieu fee. The required compliance with the Parkland Dedication Ordinance will ensure that the proposed project would have a ***less-than-significant impact*** on parks.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *e) Other public facilities?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The only other public facilities anticipated to be affected by the proposed project would be library facilities. The Richmond Public Library includes a main branch at 325 Civic Center Plaza and two branch libraries: the Bayview Branch Library at 5100 Hartnett Avenue and the West Side Branch Library at 135 Washington Avenue. All three libraries are full-service facilities, with public-access computers, story times, special events, new books, DVDs, and free Wi-Fi service. The libraries host a variety of programs only offered in the branches, like Relax Taiso and book clubs.

The General Plan EIR determined that new development allowed under the *Richmond General Plan 2030* would have a less-than-significant impact on library services and facilities, and that General Plan policies CF1.1, CF4.2, and EH3.7 would further reduce impacts. The proposed project is consistent with the General Plan, so its impact on libraries has already been addressed in the General Plan EIR. Therefore, the proposed project would have a ***less-than-significant impact*** on other public facilities.

## XVI. 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: As discussed in Section XV-d, above, the project would have a minor effect on the population of Richmond, and a concomitant minor effect on the demand for existing parks or other recreational facilities. The General Plan EIR determined that new development allowed under the *Richmond General Plan 2030* would have a less-than-significant impact on parks and recreation facilities, and the proposed project is consistent with the General Plan, so its impact on recreation facilities has already been addressed in the General Plan EIR. The project would have a ***less-than-significant impact*** on recreation facilities.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☒ | ☐ | ☒ |

Explanation: The proposed project would include a kids' play structure and would also provide common open space that could be used for recreational purposes. Potential construction impacts on air quality, cultural resources, energy, geology and soils (erosion), greenhouse gases, water quality, and noise are addressed in the sections devoted to those environmental resources. While the project includes recreation facilities the construction of which could result in significant, adverse impacts on the environment, with implementation of mitigation measures identified in some of the sections listed above, the impact would be reduced to ***less than significant with mitigation***.

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) *Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?* | ☐ | ☐ | ☒ | ☐ |

Explanation:

### *Roadway Travel*

On September 27, 2013, California Governor Jerry Brown signed Senate Bill (SB) 743 into law and started a process that changed the way transportation impact analysis is conducted as part of CEQA compliance. These changes include elimination of automobile delay, intersection and roadway level of service (LOS) metrics, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA. According to SB 743, these changes are intended to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

In December 2018, the State Office of Planning and Research (OPR) completed an update to the *CEQA Guidelines* to implement the requirements of SB 743. The Guidelines state that vehicle miles traveled (VMT) must be the metric used to determine significant transportation impacts. The Guidelines require all lead agencies in California to use VMT-based thresholds of significance in CEQA documents published after July 1, 2020.

The OPR Guidelines recommend developing screening criteria for development projects that meet certain criteria that can readily lead to the conclusion that they would not cause a significant impact

on VMT. The OPR Guidelines also recommend evaluating VMT impacts using an efficiency-based version of the metric, such as VMT per resident for residential developments and/or VMT per worker for office or other employment-based developments.

The concept of project screening is that some projects have characteristics that would readily lead to the conclusion that they would not cause a VMT impact, and therefore those projects could be screened out of doing a detailed VMT analysis. The City of Richmond adopted VMT guidelines, procedures, and thresholds of significance on April 6, 2021, consistent with the Contra Costa Transportation Authority (CCTA)'s adopted guidelines.[109] The City's VMT guidelines are the applicable policy addressing the roadway circulation system that is the subject of the analysis presented in this section of the Initial Study.

The City of Richmond VMT methodology has five screening criteria. The criterion applicable to the proposed townhome project is the "Project Located in Low-VMT Areas" criterion, which states that projects in low-VMT areas are presumed to have a less-than-significant impact on VMT. Low-VMT areas for housing projects are defined as areas that have existing home-based VMT per capita that is 85 percent or less of the existing County-wide average. The area-based evaluation of VMT is done by travel analysis zone (TAZ). TAZs are developed by planning agencies to represent geographic areas with similar travel characteristics. The TAZs in Contra Costa County were determined by the CCTA.

The CCTA Model, which covers the entire nine county Bay Area, is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes, transit ridership, and VMT using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process accounts for changes in travel patterns due to future growth and expected changes in the transportation network. This analysis uses the latest version of the CCTA Model, which was released in April 2019. It has been updated to incorporate Association of Bay Area Governments (ABAG) 2017 projections consistent with the 2017 Regional Transportation Plan (RTP) prepared by the Metropolitan Transportation Commission (MTC), *Plan Bay Area 2040*.

The existing County-wide average of per-capita home-based VMT in Contra Costa County was 17.3 miles in 2020, as determined by the CCTA Model. Eighty-five percent of this average is 14.7 miles, so if the project were located in a TAZ with an average VMT of 14.7 or less, it would be considered to have a less-than-significant impact on VMT. The project site is located in TAZ 10042, which encompasses the area bounded by I-80 on the east, I-580 on the west, Central Avenue on the south, and on the north by the northern edge of the American Soil and Stone property located to the north of the project site. The traffic consulting firm Fehr & Peers determined that the home-based VMT in this TAZ is 10.2.[110] Therefore, the proposed project would meet the City's criterion of being located in a low-VMT area, and a detailed VMT analysis is not required. The project would have a ***less-than-significant impact*** on VMT.

### *Pedestrian Facilities*

The *City of Richmond Pedestrian Plan* (2011) recommends that sidewalks have a minimum width of 5 feet, with a 6-foot width preferred. Most streets in the project vicinity have sidewalks, although many are 3 to 4 feet wide, falling short of the recommendations in the Pedestrian Plan. Pedestrians traveling from the project vicinity to locations east of nearby Interstate 80 may use the Sacramento Avenue bridge located about 500 feet south of the project site or may use the Central Avenue underpass about

[109] Contra Costa Transportation Authority, *VMT Analysis Methodology for Land Use Projects in Contra Costa County*, July 2020.

[110] Fehr & Peers, *Cherry Blossom Row – Transportation Assessment*, May 10, 2021.

0.3 miles south of the project site. The primary destinations west of the project site are the Point Isabel Regional Shoreline and the retail uses adjacent to the park, which are accessible via Central Avenue.

Most of the project frontages along Dalai Lama Avenue, Napa Avenue, and San Joaquin Street are either missing sidewalks or have sidewalks narrower than the City of Richmond recommended minimums. Based on the site plan dated April 7, 2021, the project would provide sidewalks along all frontage streets, which would have the minimum recommended width of 5 feet. The primary pedestrian access for the western portion of the project would be via sidewalks on either side of the driveway on Dalai Lama Avenue and the emergency vehicle access (EVA) on Columbia Avenue. Primary pedestrian access for the eastern portion of the project would be via sidewalks on San Joaquin Street, Dalai Lama Avenue, and Napa Street. To provide enhanced pedestrian access and meet the City's preferred sidewalk width, it is recommended that the City adopt a condition of approval that requires all sidewalks along the project frontages to meet the City of Richmond's preferred width of 6 feet.

The project would provide internal pedestrian circulation via several alleys, most of which would have a sidewalk on one side of the alley that would be level with the vehicle travel way and designated with accent paving. The alleys would include several mid-block crossings to facilitate crossings between different blocks of the project. To enhance pedestrian safety at these crosswalks, Fehr & Peers recommends that the project provide raised crosswalks at the designated mid-block alley crossing locations to reduce vehicle speeds within the project. Fehr & Peers also recommends providing a mid-block speed hump for the northernmost alley in the west portion of the project. City staff may recommend these improvements as conditions of project approval. However, these are not mitigation requirements, as the project would have a ***less-than-significant impact*** on pedestrians.

### *Bicycle Facilities*

Primary bicycle access to the project would be provided via the project driveways on Dalai Lama Avenue and Napa Street. Residents could park bicycles either in garages or bring them into the townhomes via ground-level doors accessed via the sidewalks. The nearest bicycle facilities to the site are Class II bike lanes on Central Avenue about 0.3 miles to the south and on Carlson Boulevard about 0.5 miles to the east. Class II bikeways are bike lanes established along streets that are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel. Class II bike lanes are typically one-way facilities, usually striped adjacent to vehicular traffic travelling in the same direction.

The *City of Richmond Bicycle Master Plan* (2011) proposes a Class III bike route on San Joaquin Street adjacent to the project site. Class III bikeways, or bike routes, designate a preferred route for bicyclists on streets shared with motor traffic that are not served by dedicated bikeways; they are intended to provide continuity to the bikeway network. Class III bike routes are generally not appropriate for roadways with higher vehicle traffic speeds or volumes. Class III bike routes are designated by bike route signs and optional shared roadway markings (sharrow) along roadways.

The *South Richmond Transportation Connectivity Plan* (2015) recommends installing wayfinding and traffic calming along San Joaquin Avenue to provide a low-stress route. To improve consistency with this plan, Fehr & Peers recommends that the project provide traffic calming, such as speed humps, along the project frontage on San Joaquin Street, in coordination with the City of Richmond, in order to support the proposed Class III bike route. City staff may recommend these improvements as conditions of project approval. However, these are not mitigation requirements, as the project would have a ***less-than-significant impact*** on bicycle facilities.

### *Loading and Vehicle Access*

According to Richmond Municipal Code Section 15.04.607.090, multi-unit residential projects with between 50 and 149 units are required to provide one small loading space, with a width no less than 10 feet, length no less than 25 feet, and vertical clearance of no less than 8 feet. Consistent with

comments from the City of Richmond, the project provides a loading zone adjacent to the project driveway on Dalai Lama Avenue for carpools, rideshares, and TNC drop-off/pick-up that meets the size requirements of a small loading space.

Vehicle access to the project site would be provided by alleys connecting to Dalai Lama Avenue and Napa Street. No project residences would have direct driveway access to public streets. Due to this, it is anticipated that residents could store their vehicles along the project frontage on Dalai Lama Avenue, reducing the availability of public on-street parking. To remedy this, Fehr & Peers recommends limiting parking at the project visitor spaces and along the project frontage on Dalai Lama Avenue to a maximum of 4 hours during weekday business hours to discourage project residents from storing vehicles in those spaces. City staff may recommend these improvements as conditions of project approval. However, these are not mitigation requirements, as CEQA does not consider effects on parking and loading facilities to be environmental impacts.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Section 15064.3 of the *CEQA Guidelines*, added to the Guidelines on December 28, 2018, establishes *vehicle miles traveled* (VMT) as the most appropriate measure of potential transportation impacts, replacing vehicle delay as the long-established metric for evaluating traffic impacts. Although there was an 18-month grace period following the adoption of this guideline, as of July 1, 2020, lead agencies are required by law to employ a VMT methodology when assessing a project's transportation impacts.

As discussed in Section XVII-a, above, the City of Richmond adopted VMT guidelines, procedures, and thresholds of significance on April 6, 2021, consistent with the Contra Costa Transportation Authority (CCTA)'s adopted VMT guidelines. The traffic consulting firm Fehr & Peers determined that the project is located in a low-VMT area, where residential projects are presumed to have a less-than-significant impact on VMT. See Section XVII-a for additional information. The proposed project would not conflict with Section 15064.3 of the *CEQA Guidelines* and the project would have a ***less-than-significant impact*** transportation impact.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The traffic analysis performed by Fehr & Peers and summarized in Section XVII-a did not identify any traffic hazards associated with the proposed development. Vehicle entry into the main western portion of the proposed development would occur via a new intersection on Dalai Lama Avenue, approximately 200 feet west of Napa Street. A new internal street would extend from the intersection to the northern edge of the project property, then wrap around the northern and western

edges of the site. An east-west alley would provide vehicle access to blocks of townhomes lining the alleyway. On the smaller eastern parcel, two short alleys would extend from Napa Street eastward, providing access to the three townhome blocks on this parcel. Aside from the new intersection, the project would not create or alter offsite traffic features or facilities. The new internal street would not create new traffic hazards such as sharp curves or dangerous intersections, and no incompatible uses would be introduced by the project. The proposed project would have ***no impact*** related to traffic hazards.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *d) Result in inadequate emergency access?* | ☐ | ☐ | ☐ | ☒ |

Explanation: The proposed project would connect to the existing street network serving the Annex neighborhood in which the project site is located, thereby providing adequate access to emergency vehicles. The project would not block or impede access to emergency evacuation routes. The applicant will be required to demonstrate to the Richmond Fire Department that there are adequate turning radii on the internal roadways to provide adequate emergency access for fire trucks. If the Fire Department identifies inadequate maneuvering room on the site, the applicant would be required to modify the site plan to meet Fire Department specifications. Therefore, there would be ***no impact*** due to inadequate emergency access.

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:* | | | | |
| *a) 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)?* | ☐ | ☒ | ☐ | ☐ |

Explanation: Pursuant to Assembly Bill (AB) 52, passed by the California Legislature in September 2014, the City sent a Tribal Consultation List Request to the Native American Heritage Commission (NAHC) on May 18, 2021 in order to identify Native American tribal groups who may be traditionally and culturally affiliated with the geographic area of the proposed project site. On June 2, 2021 the

NAHC responded to the City's request, and identified seven tribal groups that were culturally affiliated with the project area. They included:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Guidiville Indian Rancheria
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band
- The Confederated Villages of Lisjan

On June 11, 2021 the City sent letters to the identified representatives of these tribes, including letters to two identified representatives of the Indian Canyon Mutsun Band of Costanoan and Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, inviting them to provide input to the City regarding the protection of cultural resources that could be present in the subsurface of the project site. As of the time of publication of this Initial Study, the City had not received any consultation requests from the tribal groups affiliated with the project area.

As discussed further in Section V, the possible presence of buried prehistoric cultural materials at the project site, including tribal cultural resources, cannot be ruled out, and any disturbance to such resources, were they to exist, could result in a significant, adverse impact on tribal cultural resources. Implementation of Mitigation Measures CR-1 through CR-3, set forth in Section V, would reduce the potential impact to a ***less-than-significant-with-mitigation*** level.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.* | ☐ | ☒ | ☐ | ☐ |

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

## XIX. 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, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?* | ☐ | ☐ | ☒ | ☐ |

Explanation:

### *Water Treatment Facilities*

As discussed in more detail in Section XIX-b, below, water would be supplied to the project by the East Bay Municipal Utility District (EBMUD), which serves approximately 1.4 million people in Contra Costa and Alameda counties, encompassing a service area of 332 square miles. The District operates six water treatment plants within its service area. The project area is served primarily by the Orinda Water Treatment Plan (WTP), the District's largest treatment plant with a capacity of 200 million gallons per day (MGD). As needed, the area is also served by the Sobrante WTP, a seasonal plant. Systemwide, the EBMUD has permitted water treatment capacity of 495 MGD, but an actual capacity of 375 MGD.[111]

The Orinda WTP provides flocculation, filtration, chloramine disinfection, fluoridation, and corrosion control. EBMUD regularly tests for more than 100 contaminants, and in 2020 met or surpassed every public health requirement set by the State Water Resources Control Board (SWRCB) and the U.S. Environmental Protection Agency (USEPA).[112] With District-wide annual water demand of 181 MGD, projected to reach 190 MGD by 2030 and 218 MGD by 2050, the treatment capacity of 375 MGD is more than adequate to meet existing and projected demand.[113] Because EBMUD's future demand projections are based on the adopted general plans of the cities and counties in the EBMUD service area, and the proposed project is consistent with the Richmond General Plan, the water demand from the project can be presumed to be included in EBMUD's future water demand projections. Since the total projected demand in 2050 would be well below the available treatment capacity, no expansion of water treatment facilities would be required. Therefore, the proposed project would have a ***less-than-significant impact*** on water treatment capacity.

### *Wastewater Treatment Facilities*

The project site is located within the service area of the Stege Sanitary District (SSD), which serves the Richmond Annex neighborhood, the City of El Cerrito, and the unincorporated community of Kensington. Wastewater generated by the project would be collected in the SSD interceptor system

[111] East Bay Municipal Utility District, Water Treatment, accessed May 25, 2021 at: http://www.ebmud.com/water-and-drought/about-your-water/water-quality/water-treatment/.

[112] East Bay Municipal Utility District, *2020 Annual Water Quality Report*, Publication 148, March 2021.

[113] East Bay Municipal Utility District (EBMUD), *Urban Water Management Plan 2020*, Table 3-1: Average Annual Water Demand Forecast, 2050 Demand Projections, Public Draft, April 2021.

and conveyed via collection system pumping stations to the Wastewater Treatment Plant (WWTP) operated by EBMUD in Oakland near the eastern terminus of the San Francisco Oakland Bay Bridge. The SSD is part of a separate wastewater district (known as Special District No. 1, or SD-1) within EBMUD's greater wastewater service area, which includes the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Kensington, Oakland, Piedmont, and part of Richmond.

The EBMUD WWTP has primary treatment capacity of 320 MGD and secondary treatment capacity of 168 MGD.[114] EBMUD reports that its wastewater system serves approximately 740,000 people.[115] On average, about 54 million gallons of wastewater is treated every day, demonstrating that there is currently significant excess capacity. EBMUD projects that daily wastewater flows at its Oakland WWTP will increase to 58 MGD by 2035 and to 63 MGD by 2045.[116]

Based on the EPA's estimate that nationwide per-capita wastewater generation is 70 gallons per day, it can be estimated that the proposed project's estimated 293 residents would generate 20,510 gallons of wastewater per day, or 0.0205 MGD.[117] This represents about 0.038 percent of the current average daily flow at the Oakland WWTP. Given the available excess capacity, this would have an insignificant impact on EBMUD's wastewater treatment capacity. Furthermore, EBMUD's projections on future wastewater flows are based on the population projections produced by the U.S. Census Bureau and the Association of Bay Area Governments (ABAG). ABAG's population projections are in turn based on the adopted general plans of Bay Area cities and counties. Since the Richmond General Plan assumes development of the project site at a greater density than would result from implementation of the proposed project, the additional wastewater that would be generated by the project has already been factored into EBMUD's long-term planning. Therefore, the proposed project would have a ***less-than-significant impact*** on wastewater treatment capacity.

### *Stormwater Drainage Facilities*

On November 19, 2015, the San Francisco Regional Water Resource Control Board adopted the reissuance of the Municipal Regional Stormwater NPDES Permit No CAS612008 (MRP 2.0). This updated permit became effective on January 1, 2016 and one of the significant changes in the updated permit is the requirement for Green Infrastructure (GI). MRP 2.0 requires the City of Richmond, one of 76 local agencies in the San Francisco Bay region, to develop a Green Infrastructure Plan (GI Plan) by September 2019. The City met this deadline, with the City Council approving a Green Infrastructure Plan (GI Plan) on September 17, 2019. This GI Plan will change how the City plans, designs, builds, and maintains public transportation and drainage infrastructure.

The City of Richmond GI Plan will guide a shift from conventional "collect and convey" storm drain infrastructure to more resilient, sustainable stormwater management that improves water quality, reduces runoff volumes and reduces flood risk, disperses runoff to vegetated areas, harvests and uses runoff where feasible, promotes infiltration and evapotranspiration, and uses natural processes to detain and treat runoff. GI facilities include, but are not limited to: pervious pavement, infiltration basins, and bio-retention facilities ("rain gardens" or "bioswales"), green roofs, and rainwater harvesting systems.

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[114] *Ibid*, Section 5.1: Wastewater.

[115] East Bay Municipal Utility District, Wastewater Collection and Treatment, Accessed May 25, 2021 at: https://www.ebmud.com/wastewater/collection-treatment/.

[116] East Bay Municipal Utility District (EBMUD), *Urban Water Management Plan 2020*, Table 5-1: Collected and Treated Wastewater Generated in EBMUD Service Area, Public Draft, April 2021.

[117] U.S. Environmental Protection Agency, Office of Water, Office of Research and Development, *Onsite Wastewater Treatment Systems Manual*, EPA/625/R-00/008, February 2002.

As required by Provisions C.3.a. through C.3.i. in the MRP, these "Low Impact Development" (LID) practices are currently implemented on land development projects in the City. Specific methods and design criteria are spelled out in the Contra Costa Clean Water Program's (CCCWP's) *Stormwater C.3 Guidebook*, which the City has referenced in Richmond Municipal Code (RMC) Chapter 12.22. The GI Plan details how similar methods will be incorporated to retrofit existing storm drainage infrastructure using green infrastructure facilities constructed on public and private parcels and within the public right-of-way.

The City of Richmond is divided into 12 watersheds; the project site is located in the Rust watershed, which includes a portion of the City of El Cerrito.[118] The project site is adjacent to but outside of the McLaughlin Park High Priority Storm Drain Area.[119]

The City of Richmond requires new development projects to design storm drains to collect and convey stormwater from a 10-year, 2-hour storm event, which has a 10-percent chance of occurring in any given year. As discussed in more detail in Section X-a, the project will be required to provide hydromodification management controls in the onsite stormwater drainage and collection system that will ensure that the rate and volume of stormwater discharged from the site during a 10-year storm event does not exceed the rate and volume of stormwater discharged from the site in its current condition. Therefore, the proposed project would have a ***less-than-significant impact*** on stormwater drainage facilities.

### *Electric Power, Natural Gas, and Telecommunications Facilities*

The 2030 General Plan EIR also evaluated the increased demand for electric power and natural gas facilities that would result from buildout under the proposed General Plan, and found the impact to be less than significant.[120] The analysis determined that new development would be required to comply with existing energy efficiency regulations and would be encouraged to implement additional voluntary energy efficiency measures. The EIR cited General Plan policies and implementing actions that would further reduce the impact of future development on energy, including policies CF1.4, CN5.1, CN5.2, EC3.1, EC3.2, and their applicable implementing actions. The EIR found that construction of new electric facilities could be required to serve new development within the City, but the physical impacts from the construction of these facilities were assumed as part of the General Plan development and were analyzed in the General Plan EIR. Development of the project site was assumed in the General Plan EIR at a greater density than is currently proposed. Therefore, the potential impacts related to increased demand for electric power and natural gas facilities that would result from implementation of the proposed project have already been addressed. Furthermore, the project would be located within an already developed area of the City where electric power and natural gas infrastructure is already present.

With respect to telecommunications facilities, not addressed in the General Plan EIR, most telecommunications companies expand their cable networks and equipment in response to growth in demand. There is a multiplicity of different telecommunications companies serving the residents and businesses in Richmond. To meet growing future demand, some of these companies may expand their infrastructure, but this infrastructure generally consists of computer servers, wires, cables, optical fiber, switching equipment, transformers, microwaves, satellites, towers, poles, networking hardware, and other similar equipment, and installation of these types of equipment would not have significant impacts on the environment. Infrastructure such as towers for mounting cellular and other equipment is typically shared among telecommunications companies, minimizing the need for duplicative

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[118] City of Richmond, *Green Infrastructure Plan*, Figure 2: Richmond Watersheds, September 17, 2019.

[119] *Ibid*, Appendix B, Figure 1.4: High Priority Storm Drain Areas.

[120] City of Richmond, *Richmond General Plan 2030 Draft Environmental Impact Report*, Section 3.13: Public Utilities, February 2011.

construction. Expansion of telecommunications facilities to accommodate future growth in Richmond consistent with the proposed General Plan is likely to be limited to new equipment in existing buildings, on existing towers and poles, and within existing utility trenches. In the event a company decides to implement more substantial expansion of its facilities, such as by erecting a new cellular tower or constructing a new building, such a project would be subject to separate environmental review. The telecommunications needs of the proposed project could be readily accommodated by existing infrastructure and would not require substantial new construction that could create adverse effects on the environment.

Based on the foregoing considerations, the proposed project would have a ***less-than-significant impact*** on electric power, natural gas, and telecommunications facilities.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Implementation of the proposed project would temporarily consume water for suppression of dust during site grading activities. Water would also be used during project construction for production of concrete, washing equipment, and for other miscellaneous purposes. Following project construction, domestic water would be consumed by project residents, and water would be used for irrigating the proposed landscaping.

### *Water Supply and Demand*

As noted in Section XIX-a, above, water is supplied to the City of Richmond by EBMUD. More than 90 percent of the water delivered to EBMUD's customers originates from the Mokelumne River watershed in the Sierra Nevada, with the remainder collected from protected watershed lands in the East Bay area.[121] The District has water rights to a maximum of 325 million gallons per day (mgd) of Mokelumne River water, subject to availability of Mokelumne River runoff, senior water rights of other users, and downstream fishery flow requirements.[122] Local runoff provides 15 to 25 mgd of EBMUD's water supply during normal rainfall years, but it provides a negligible amount during drought years. Although the water supply is currently adequate to meet demand within the EBMUD, in the long term, the Mokelumne River supply cannot meet projected customer demand, even with mandatory water use restrictions.

EBMUD's planning to ensure an adequate water supply during both wet and dry years is based on future growth projections through 2040, determined by a *2040 Demand Study* completed in 2009, based on land use projections from local planning agencies. The District-wide land use analysis was conducted prior to the 2007-2009 economic recession, when there was an expectation that the economic expansion occurring prior to the recession would continue. Therefore, increased water demand associated with economic and population growth is likely to occur more slowly than projected in EBMUD's *2040 Demand Study*. The adjusted planning-level demand is 217 mgd in 2020 and 230

[121] East Bay Municipal Utility District (EBMUD), *2015 Urban Water Management Plan*, Section 1.4: Mokelumne Watershed and Hydrology, July 2016.

[122] *Ibid*, page 8.

mgd in 2040, which does not reflect projected reductions as a result of conservation and recycling programs.[123]

EBMUD's *Urban Water Management Plan 2015* (UWMP), prepared in compliance with the California Urban Water Management Planning Act of 1983, documents the District's planning activities to ensure adequate water supplies to meet existing and future demands for water. Although EBMUD has now prepared I *Urban Water Management Plan 2020*, the document is in draft form and has not yet been adopted, and could be revised prior to adoption. CEQA does not apply to planning documents that have not been formally adopted. Accordingly, the water supply analysis summarized below is based on the 2015 UWMP.

The drought planning presented in the UWMP is based on modeling of rainfall runoff that occurred in 1976 and 1977, the driest recorded two-year period, and also factors in the runoff from the 2014-2015 drought. EBMUD typically uses a three-year drought planning sequence (DPS) to assess the adequacy of its water supply. The first and second years of the DPS are modeled on the actual runoff that occurred in 1976 and 1977, respectively, and the third year is the average runoff from those two years, or 185 thousand acre-feet (TAF).[124]

The UWMP determined that EBMUD would have sufficient water supplies to meet customer demand through 2040 during normal years and up to two dry years of a multi-year drought, but would need supplemental water supplies to meet projected demand during a third dry year after 2020 (supplies would be adequate through 2020). During a third year of drought there would be shortfalls of 2 TAF, 13 TAF, 24 TAF, and 48 TAF in 2025, 2030, 2035, and 2040, respectively.[125] There would be sufficient excess supply during normal years for the District to recharge groundwater, either locally or at the off-site Semitropic Groundwater Bank, for later use during dry years.

During multi-year droughts when demand could exceed supply by up to 10 percent, EBMUD would rely on local and off-site groundwater storage to make up the shortfall. If there were insufficient local groundwater storage or the District was unable to recover its full contractual amount from the Semitropic Groundwater Banking Program, the District would look to secure additional supplies through a California Department of Water Resources (DWR) drought water bank or similar water purchase/transfer program.

Water shortages during prolonged droughts or due to short-term emergencies would also be addressed through implementation of EBMUD's Water Shortage Contingency Plan (WSCP), required by Section 10632 of the California Water Code. EBMUD adopted its first WSCP in 1992 and it has continued to evolve since then. It was last updated in the 2010 UWMP to reflect the 2007-2010 drought, the completion of the Freeport Regional Water Facility (discussed below), and numerous other changes, and is updated again in the current UWMP.

In order to meet projected demand during future drought years, in 2006 the EBMUD modified a prior contract executed in 2000 with U.S. Bureau of Reclamation (USBR) for delivery of Central Valley Project (CVP) water from the American River. The Long Term Renewal Contract (LTRC) that EBMUD executed with the USBR allows EBMUD to take delivery of CVP water during dry periods from an intake in the Sacramento River rather than the American River. Pursuant to the original contract, the Freeport Regional Water Authority (FRWA), a joint powers agency created by EBMUD and the Sacramento County Water Agency (SCWA) in 2002, developed the Freeport Regional Water Project (FRWP), bringing it online in 2011. Among other facilities, the FRWP includes a 185-mgd water intake

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[123] *Ibid*, pages 51-52.

[124] An acre-foot is the amount of water necessary to cover 1 acre of land to a depth of 1 foot, and is equivalent to 325,851.43 gallons, or 43,560 cubic feet

[125] EBMUD (July 2016), *op. cit*., Table 4-5.

(with fish screens) and pumping plant on the Sacramento River near Freeport, approximately 20 miles of 72-inch-diameter pipeline, and two 100-mgd inline pumping plants to transport Sacramento River water to EBMUD's Mokelumne Aqueducts.

The LTRC provides for delivery of up to 133,000 AF in a single qualifying year, not to exceed a total of 165,000 AF in three consecutive qualifying years. Qualifying years are those in which EBMUD's total stored water supply is forecast as of March 1 to be below 500 TAF on September 30 of that year. EBMUD exercised its LTRC for the first time during the 2014-2015 drought and delivered CVP water to its customers. The District received 18,641 acre-feet of CVP supply in 2014 and another 33,250 acre-feet of CVP water in 2015.[126]

In addition to these water supply sources, since 2010 EBMUD has been operating the Bayside Groundwater Facility to provide an additional water supply source during droughts. During normal rainfall years, potable water is injected into the South East Bay Plain Groundwater Basin (SEBPGB) in the vicinity of the City of Hayward. The District can draw on this stored water during dry years via extraction wells that can produce 2 mgd over a 6-month period. This supplemental supply can produce about 1,120 AF/year (AFY), which the District plans to expand in the future. Although the injection of surplus water into the SEBPGB is expected to exceed the quantity of water extracted during dry years, as of preparation of the current UWMP, EBMUD had not yet made groundwater injections due to the five-year drought that was ongoing at that time.[127]

The District also continues to explore a variety of other long-term supplemental water supplies, including expansion of surface water storage in the Contra Costa Water District's Los Vaqueros Reservoir, partnerships with other water agencies, and the possibility of a jointly-owned regional desalination facility to produce potable water from ocean, Bay, and/or brackish water.

Pursuant to EBMUD's Water Supply Availability and Deficiency Policy 9.03, by March 1st of each year the District presents to the EBMUD Board of Directors a preliminary assessment evaluating the adequacy of that year's water supply. Following this preliminary assessment, the Board of Directors adopts a final Water Supply Availability and Deficiency Report before May 1st that updates the water supply projections based on the April 1st snow survey by DWR. Based on these reports, the Board of Directors decides whether to declare a water shortage emergency and implement a drought management program, institute mandatory water use reductions, and/or obtain/pursue supplemental supplies. The preliminary report can also be used as the basis for requesting CVP water that year if EBMUD's water supply is projected to be deficient. EBMUD continues to monitor the water supply throughout the year and assess the effects on demand of any voluntary or mandatory rationing policy.

The WSCP contains a variety of other provisions for addressing water supply shortfalls, including demand reduction strategies and agreements obtaining emergency water supplies from neighboring agencies, including the Contra Costa Water District (CCWD), San Francisco Public Utilities Commission (SFPUC), Dublin San Ramon Services District (DSRSD), and City of Hayward.

The proposed project is well under the water demand threshold established by Senate Bill 610 (2001), requiring preparation of a Water Supply Assessment (WSA) during environmental review of projects over a certain size. Among other thresholds, a project is required to prepare a WSA if it would: (1) be a business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space, or (2) would demand an amount of water equal to, or greater than, the amount of water needed to serve a 500-dwelling unit project.[128] The proposed project, which is well under the thresholds requiring a WSA, would create a relatively small incremental increase in water demand that

[126] EBMUD (July 2016), *op. cit.*, Sections 1.4 and 1.5.

[127] EBMUD (July 2016), *op. cit.*, page 63.

[128] California Code of Regulations, Title 14, Chapter 3, Article 10, Section 15155.

would not cause a substantial effect on the availability of regional water supplies. The *2040 Demand Study* on which EBMUD's UWMP is based factors in growth in the region, based on general plan projections of the cities and counties in the EBMUD service area. Because the proposed project would be consistent with the Richmond General Plan, water demand from the project can be assumed to be factored into EBMUD's long-range water supply planning.

The latest adopted UWMP prepared by EBMUD in 2016 indicates that the District would have sufficient supplies through the planning horizon year of 2040 during average rainfall years, during a single severe drought year (modeled on 1977, the driest year on record), and during a second year of severe drought. During a third drought year (modeled on the 2013-2015 drought years), supplies would be sufficient through 2020, but by 2025 demand would exceed supply beginning in the third year of drought in every modeled three-year period from 2025 through 2040.

As required by State law, EBMUD must update its UWMP every five years. The District is continually working on developing new water supplies and managing demand through conservation and water recycling programs, and each updated UWMP revises the District's drought planning based on changing conditions and evolving methodologies. As stated in the current UWMP, the District is committed to ensuring the appropriate level of water service reliability to meet water demands during normal, dry, and multiple dry years. The incremental demand that would be generated by the proposed project was included in future water demand projections. The project would not result in the need for new water supplies or infrastructure that was not already planned. Therefore, the project's impact on water supply would be ***less than significant***.

### *Water-Efficient Landscape Ordinance*

The proposed project would provide 44,626 square feet of new landscaping, which would require water for irrigation. The project would be required to comply with the City's water-efficient landscape requirements promulgated in Article 15.04.613 of the *Richmond Municipal Code*, which are based on the State Water Efficient Landscape Ordinance (WELO).[129] The ordinance requires landscaping for projects generally requiring a building permit, design review, or a use permit and proposing 500 square feet or more of new landscaping or 2,500 square feet of rehabilitated landscaping to design the landscape with water-efficient hydro-zones containing plants with similar water needs. Turf areas may not exceed 50 percent of the landscaping for residential projects. Plants must be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site.

In order to comply with Article 15.04.613, an applicant must submit a Landscape Documentation Package that must be reviewed and approved by the City prior to the start of construction. In addition to a landscape design plan, soil management plan, irrigation design plan, grading design plan, and other project information, the Landscape Documentation Package must include a Water-Efficient Landscape Worksheet that provides calculations of the estimated total water use (ETWU) and maximum applied water allowance (MAWA), based on the evapotranspiration adjustment factor (ETAF) for the area, plant factors, irrigation efficiency, and other parameters. The landscape design plan must identify all proposed plant locations, species, and sizes; each hydrozone, labeled or identified by number, letter or other method and noted as low-, moderate-, or high-water use; and any on-site stormwater retention areas, among other requirements. Article 15.04.613 also stipulates detailed requirements for the other plans listed above as part of the Landscape Documentation Package.

Where irrigation is required, an efficient system tailored to each hydro-zone must be employed that meets specific efficiency requirements based on flow rate, application rate, and design operating pressure for each zone. The system must be designed by a landscape professional licensed by the

[129] California Code of Regulations, Title 23, Division 2, Chapter 2.7.

State of California to construct, maintain, repair, install, or subcontract the development of landscape systems. Irrigation for the proposed landscaping may not exceed the MAWA that will be calculated for the project. The irrigation system must include automatic irrigation controllers using current reference evapotranspiration data or soil moisture sensors, such that total applied water does not exceed the MAWA. An irrigation audit must be submitted to the City demonstrating compliance and proper functioning of the irrigation system. Article 15.04.613 stipulates detailed requirements for this and other irrigation components (pressure-regulating devices, backflow prevention devices, manual shut-off valves, flow sensors, etc.).

The proposed landscape plans do not indicate the square footage of the proposed turf areas, but this information will be required in the Landscape Documentation Package. Similarly, there is insufficient information on the landscaping plans that were available for review during preparation of this Initial Study to determine whether or not the proposed landscaping complies with the requirements for drought-resistant plants. However, as required by Municipal Code Section 15.04.613.060, the applicant will be required to satisfy the City's water-efficient landscape requirements promulgated in Article 15.04.613 prior to the start of construction. This will ensure that water for irrigation of the project's landscaping would not be used in a wasteful or inefficient manner that could place undue burden on EBMUD's water supply

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: See Section XIX-a, above.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: Solid waste in Richmond is collected by Richmond Sanitary Services, an affiliate of Republic Services, which owns and operates a 21-acre site in Richmond including the former West County Sanitary Landfill (which closed in 2006), the Golden Bear Transfer Station, a household hazardous waste (HHW) facility, and the Integrated Resource Recovery Facility (IRRF), which is operated by another affiliate, West County Resource Recovery, Inc. The HHW facility accepts a variety of hazardous and universal wastes from residents and small businesses for appropriate disposal or recycling. The on-site IRRF processes the City's recycling prior to sale and shipment to remanufacturers.

The Golden Bear Transfer Station is a transfer point for the City's garbage before it is disposed in the Potrero Hills Landfill in Solano County. Potrero Hills Landfill, located near Suisun City, has a daily permitted throughput of 4,330 tons/day and a total permitted capacity of 83.1 million cubic yards. As of January 1, 2006, the landfill had 13,872,000 cubic yards of remaining capacity.[130] This is anticipated to provide disposal capacity until February 2048.

The City of Richmond is part of the West Contra Costa Integrated Waste Management Authority (WCCIWMA), which includes the cities of El Cerrito, Hercules, Pinole, Richmond, and San Pablo. Formed In 1991, the WCCIWMA was established to develop programs and strategies to enable member cities to meet the mandate codified by Assembly Bill 939, which established Statewide waste diversion goals, requiring diversion of 25 percent of a jurisdiction's solid waste from landfill disposal by January 1, 1995. This waste diversion requirement increased to 50 percent of all collected solid waste by January 1, 2000.

Member agencies of the WCCIWMA have utilized numerous other landfills besides Potrero Hills Landfill in recent years; the Richmond General Plan EIR identifies 14 other regional landfills that provide additional solid waste disposal capacity to the region. The General Plan EIR determined that there is sufficient landfill capacity to accommodate the additional solid waste that would be generated by new development facilitated by the General Plan, and concluded that the impact of General Plan buildout on solid waste disposal capacity would be a less-than-significant impact. Since the proposed project is consistent with the General Plan, and in fact would develop the site at a lower intensity than was assumed for the site in the General Plan, the proposed project's potential impact on solid waste disposal capacity has already been addressed.

Although the project would not be a covered project subject to the City's Green Building Requirements codified in Municipal Code Chapter 6.45, requiring diversion of 75 percent of demolition debris from landfill disposal, the City promotes the voluntary use of green building practices. As discussed in the Project Description, the homes has designed the project to exceed CALGreen Building Code and Build it Green energy efficiency standards. The concrete pads that would be cleared from the site prior to construction of the project would be crushed in a grinder and reused or recycled. This would further reduce the project's potential impact on solid waste disposal capacity.

The project would have a ***less-than-significant impact*** on solid waste disposal capacity and compliance with solid waste regulations.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| e) *Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?* | ☐ | ☐ | ☒ | ☐ |

Explanation: See Section XIX-d, above.

[130] CalRecycle (formerly California Integrated Waste Management Board), Solid Waste Information System Facility/Site Database, Potrero Hills Landfill (48-AA-0075), Accessed May 29, 2021 at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1194?siteID=3591.

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *a) Substantially impair an adopted emergency response plan or emergency evacuation plan?* | ☐ | ☐ | ☐ | ☒ |

Explanation: As discussed in more detail in Section IX-g, the project would not block or impede access to emergency evacuation routes, and the project would not have the potential to interfere with implementation of the City's emergency response plan.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire of the uncontrolled spread of a wildfire?* | ☐ | ☐ | ☒ | ☐ |

Explanation: There are no slopes or wildlands on or in the vicinity of the project site. As discussed in Section IX-h, the site is not within a High Fire Hazard Severity Zone or Very High Fire Hazard Severity Zones, as mapped by CAL FIRE. The project site is located in close proximity to San Francisco Bay, in an extensive area of urban development, with no wildlands within a mile of the site. Therefore, there is little to no potential for wildfire at the project site

Current building codes and standards reduce the risk of burning embers igniting buildings. These codes place standards on roofing construction and attic venting. They also require building siding materials, exterior doors, decking, windows, eaves wall vents, and enclosed overhanging decks to meet fire test standards. Construction of the new townhomes in accordance with these standards would minimize their susceptibility to fire.

Finally, the site is situated close to urban services, including access roads and water supply. Richmond Fire Department Station No. 64, at 4801 Bayview Avenue, is located approximately 1.1 miles to the northwest, allowing for a rapid emergency response in the event of fire. Based on all of the foregoing considerations, the project would have a ***less-than-significant impact*** due to increased risk of wildfire.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: As discussed in Section XX-b, above, the project site is well served by existing roads and fire-fighting services, and fire-fighting water supply will be readily available following development of the project. The only new infrastructure that would be required would be the extension of utilities onto the site from the existing infrastructure located within surrounding streets. The new infrastructure that would be developed on the project site would not have the potential to exacerbate fire risk. The potential environmental impacts that would result from the construction of utilities and other site infrastructure—such as potential impacts to air quality, water quality, and noise—are addressed throughout this Initial Study. This would be a ***less-than-significant impact***.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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?* | ☐ | ☐ | ☒ | ☐ |

Explanation: The potential for flooding is addressed in Section X-g and the potential for landslide is addressed in Section VII-a.iv. As discussed in Section XX-b, above, there is not a significant risk of wildfire at or near the project site and there are no slopes in the vicinity, so there is no potential for secondary effects such as post-fire slope instability. This would be a ***less-than-significant impact***.

## XXI. 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 degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?* | ☐ | ☒ | ☐ | ☐ |

Explanation: There is no potential for the project 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, or reduce the number or restrict the range of a rare or endangered plant or animal. There is a remote possibility for encountering buried historic/prehistoric cultural resources on the site, but mitigation measures have been identified to minimize potential impacts in the event such resources are encountered during project construction. Mitigation has been identified to prevent this and ensure that this potential impact would remain less than significant.

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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.)* | ☐ | ☐ | ☒ | ☐ |

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

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) *Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?* | ☐ | ☒ | ☐ | ☐ |

Explanation: Mitigation has been identified to reduce potential impacts from the generation of dust during project construction, which could potentially have adverse effects on human receptors. No other potentially significant impacts on human beings were identified.

## REPORT PREPARATION

This Initial Study and Mitigated Negative Declaration was prepared under the direction of Douglas Herring & Associates (DHA), with support from the City of Richmond Planning and Building Services Department.

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|---|---|
| Project Manager: | Doug Herring, Principal<br>Douglas Herring & Associates<br>1331 Linda Vista Drive<br>El Cerrito, CA 94530 |
| Air Quality, Greenhouse Gases, and Noise: | RCH Group<br>11060 White Rock Road, Suite 150-A<br>Rancho Cordova, CA 95670<br><br>Michael Ratte, Senior Air Quality Scientist<br>Luis Rosas, Environmental Associate |
| Cultural Resources: | Archeo-Tec Consulting Archaeologists<br>5283 Broadway<br>Oakland, CA 94618<br><br>Elizabeth Tjoa, Archaeologists<br>Allen Pastron, PhD, President |
| Paleontological Resources: | Rincon Consultants, Inc.<br>1530 Monterey Street, Suite D<br>San Luis Obispo, CA 93401<br><br>Jorge Mendieta, Associate Paleontologist<br>Jennifer DiCenzo, Senior Paleontologist/Program Manager |
| Traffic Consultant: | Fehr & Peers<br>2201 Broadway, Suite 602<br>Oakland, CA 94612<br><br>Lee Reis, Senior Transportation Planner |
| City of Richmond: | Emily Carroll, Planner II<br>City of Richmond<br>Planning and Building Services Department<br>450 Civic Center Plaza, Second Floor<br>Richmond, CA 94804-1630 |

## MITIGATION MEASURES

Air Quality

**Mitigation Measure AQ-1:** The project applicant shall require the construction contractors to reduce the severity of project construction-generated fugitive dust and equipment exhaust impacts by complying with the following control measures at all construction and staging areas:

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

**Mitigation Measure AQ-2:** *BAAQMD Enhanced Exhaust Emissions Reduction Measures.* The applicant shall implement the following measures during construction to further reduce construction-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and

2. All off-road equipment larger than 50 horsepower shall have engines that meet or exceed either USEPA or CARB Tier 4 off-road emission standards and Level 3 Diesel Particulate Filters (DPF). Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant.

**Mitigation Measure AQ-3:** The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:

- Installation of air filtration to reduce cancer risks and particulate matter exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated Minimum Efficiency Reporting Value (MERV)-13 or higher, in accordance with California Code of Regulations Title 24, Part 6.[131] MERV-13 air filters are considered high efficiency filters able to remove 80 percent of $PM_{2.5}$ from indoor air. MERV-13 air filters may reduce concentrations of DPM from mobile sources by approximately 50 percent. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.

  To ensure adequate health protection to sensitive receptors, a ventilation system should meet the following minimal design standards:

  - A MERV-13, or higher, rating that represents a minimum of 80-percent efficiency to capture fine particulates;
  - At least one air exchange(s) per hour of fresh outside filtered air;
  - At least four air exchange(s) per hour of recirculation; and
  - At least 0.25 air exchange(s) per hour in unfiltered infiltration.
- Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph).
- Per BAAQMD's *Planning Health Places Guidebook*, the project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible.

[131] Building Energy Efficiency Standards For Residential And Nonresidential Buildings, December 2018, Accessed April 21, 2021 at: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf.

- The project shall plant dense rows of trees and other vegetation between sensitive receptors and air pollution sources, if feasible. Trees that are best suited to trapping air pollution shall be planted, including one or more of the following: Pine (*Pinus nigra* var. *maritima*), Cypress (*X Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids X trichocarpa*), and Redwood (*Sequoia sempervirens*), as recommended by BAAQMD's *Planning Health Places Guidebook*.

Biological Resources

**Mitigation Measure BR-1:** If any site grading or project construction will occur during the general bird nesting season (February 1 through August 31), a bird nesting survey shall be conducted by a qualified raptor biologist prior to any grading or construction activity. If conducted during the early part of the breeding season (January to April), the survey shall be conducted no more than 14 days prior to initiation of grading/construction activities, due to the higher probability that new nest construction could be initiated during this time. If conducted during the late part of the breeding season (May to August), when the potential for new nest creation is much lower, the survey shall be performed no more than 30 days prior to initiation of these activities. If active nests are identified, a 250-foot fenced buffer (or an appropriate buffer zone determined in consultation with the California Department of Fish and Wildlife) shall be established around the nest tree and the site shall be protected until September 1st or until the young have fledged. A biological monitor shall be present during earth-moving activity near the buffer zone to make sure that grading does not enter the buffer area.

Cultural Resources

**Mitigation Measure CUL-1:** A qualified archaeologist shall advise the Project Construction Superintendent, Project Inspector, Building Inspector. and all construction contractor(s) responsible for overseeing and operating ground-disturbing equipment (e.g., backhoe operators) at a pre-construction conference of the potential for encountering cultural resources during construction and the applicant's responsibilities per CEQA should resources be encountered. The archaeologist shall prepare and distribute to meeting participants an Alert Sheet that includes representative photos of the types of cultural resources that could potentially be encountered during subsurface disturbance and outlines procedures for contacting an archaeologist in the event that unexpected archaeological resources are uncovered.

**Mitigation Measure CUL-2:** Following removal of fill and debris stockpiles on the surface of the eastern parcel, but prior to any subsurface disturbance of any of the project parcels, a qualified archaeologist shall conduct a limited program of subsurface testing to further determine the potential for buried archaeological resources to be present in subsurface soils. A series of 10 to 12 test borings, whose placement will be determined

by the archaeologist, shall be excavated across all three project parcels to the depth of planned grading, trenching, or other ground disturbance. If ground disturbance will not penetrate further than 5 feet in depth, the test borings may be advanced using hand augers. If disturbance will extend deeper than 5 feet, a truck-mounted drill rig shall be used. This testing can be coordinated and consolidated with any additional subsurface geotechnical testing that may be required. If no indicators of cultural resources are encountered during the subsurface testing, then no further mitigation, other than that established in Mitigation Measures CUL-1, CUL-3, and CUL-4 would be required. If significant cultural resources are encountered during the subsurface testing, a professional archaeologist shall be present during any ground-disturbing construction work to monitor for the potential discovery of historic or prehistoric cultural resources. In the event any resources are encountered, implementation of Mitigation Measure CUL-3 would be required. If construction of the proposed project would not require any excavation into native alluvial soils, then Mitigation Measure CUL-2 does not need to be implemented.

**Mitigation Measure CUL-3:** Throughout site grading and all other ground-disturbing project construction activities, a qualified archaeological monitor shall be present to observe the construction activities in order to identify any historic or prehistoric cultural resources that could be encountered during the ground-disturbing activities. In the event that any cultural resources are discovered during ground-disturbing project construction activities, all ground disturbance within 100 feet of the find shall be halted until a qualified archaeologist can evaluate the resource(s) and, if necessary, recommend mitigation measures to implement a program of data recovery. This program would fully document, and therefore mitigate any significant adverse impacts to, the information potential of the resource(s). (Construction personnel shall not collect any cultural resources.) This advisory shall also be printed on the Plans and Specification Drawings for this project. Any further mitigation measures recommended by the archaeologist shall be implemented and construction shall not resume in the vicinity of the find until the archaeologist has authorized the resumption of work. The results of any additional archaeological effort required through the implementation of this measure and/or Mitigation Measures CUL-2 and CUL-4 shall be presented in a professional-quality report, to be submitted to the Richmond Planning Division and the Northwest Information Center at Sonoma State University in Rohnert Park.

**Mitigation Measure CUL-4:** In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Office of the Contra Costa County Coroner and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner's Office will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD in consultation with the archaeological consultant and the City, will advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any

associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

Geology and Soils

**Mitigation Measure GS-1**: Prior to any project ground disturbance, a Worker's Environmental Awareness Program (WEAP) shall be prepared and used to train all site personnel prior to the start of work. (Implementation of this mitigation measure can be coordinated and consolidated with implementation of Mitigation Measure CUL-1.) The WEAP training shall include at a minimum the following information:

- Review of local and State laws and regulations pertaining to paleontological resources.
- Types of fossils that could be encountered during ground disturbing activity.
- Photos of example fossils that could occur on site for reference.
- Instructions on the procedures to be implemented should unanticipated fossils be encountered during construction, including stopping work in the vicinity of the find and contacting a qualified professional paleontologist.

**Mitigation Measure GS-2:** If any paleontological resources—such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions—are encountered during site grading or other construction activities, all ground disturbance within 100 feet of the find shall be halted until the services of a qualified paleontologist can be retained to identify and evaluate the scientific value of the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Any further mitigation measures recommended by the paleontologist shall be implemented and construction shall not resume in the vicinity of the find until the paleontologist has authorized the resumption of work. Significant paleontological resources shall be salvaged and deposited in an accredited and permanent scientific institution, such as the University of California Museum of Paleontology (UCMP).

Hazards and Hazardous Materials

**Mitigation Measure HAZ-1:** Prior to the issuance of a grading permit, the project sponsor shall retain the services of a qualified environmental professional to excavate and properly dispose of the soil with elevated levels of total petroleum hydrocarbons (TPH) encountered in boring HA-6 during the Phase II Environmental Site Assessment conducted by Santec Consultants in September 2020. A Site Management Plan (SMP) shall be prepared by a Professional Geologist, Professional Engineer, or Certified Engineering Geologist to govern construction work at the

project site. The SMP shall establish management practices for handling contaminated soil (groundwater is not expected to be encountered) during project construction, including proper offsite disposal. A copy of the SMP shall be provided to all construction contractors prior to the initiation of work at the site and construction contracts shall require all contractors to adhere to the provisions of the SMP.

The SMP shall include the following provisions, as well as any other requirements deemed appropriate by the qualified environmental professional:

- Establish procedures for sampling and testing site soils to ensure construction workers are not exposed to hazardous levels of residual petroleum hydrocarbons and/or volatile organic compounds (VOCs).
- Establish contingency measures to be followed if soils with contaminant levels in excess of the applicable Environmental Screening Levels (ESLs) for residential use established by the RWQCB are encountered. These measures shall include procedures for excavation, containment, and/or treatment of the contaminated soils to achieve contaminant levels below their ESLs. Any soils requiring offsite disposal shall be submitted to laboratory analysis for hazardous materials by a State-certified laboratory. If contaminant levels do not exceed established limits for non-hazardous waste, the soil may be disposed of at a Class II or III solid waste landfill. If the soil is classified as a hazardous waste, it shall be handled and hauled in accordance with State and federal regulations for hazardous waste and disposed of at a licensed Class I hazardous waste disposal facility.

**Mitigation Measure HAZ-2:** Prior to the issuance of a grading permit, the project sponsor shall prepare and implement during site preparation and grading activities a Health and Safety Plan (HASP). The HASP shall identify the measures necessary to protect workers and to prevent their exposure to petroleum hydrocarbons and volatile organic compounds (VOCs) that may occur in soils at the site. The HASP shall be prepared in accordance with the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard promulgated at 29 CFR 1910.120. It shall be prepared and implemented in accordance with all other applicable State and federal occupational safety and health standards.

Noise

**Mitigation Measure NOI-1:** The following measures shall be implemented to reduce noise impacts to nearby residential receptors due to construction activity:

- Prior to construction activities, the City shall designate a Construction Noise Coordinator who would be responsible for responding to any local complaints about construction noise and vibration. The Construction Noise Coordinator shall

determine the cause of the complaint and shall require implementation of reasonable measures to correct the problem. The telephone number for the Construction Noise Coordinator shall be conspicuously posted at the construction site.

- At least three weeks prior to the start of construction activities, the City shall provide written notification to all nearby residential units within 500 feet of the construction site informing them of the estimated start date and duration of construction activities.
- If stationary construction equipment would cause a substantial noise impact, it shall be located as far away from sensitive residences as necessary to reduce noise to acceptable levels and/or be equipped with engine-housing enclosures.

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