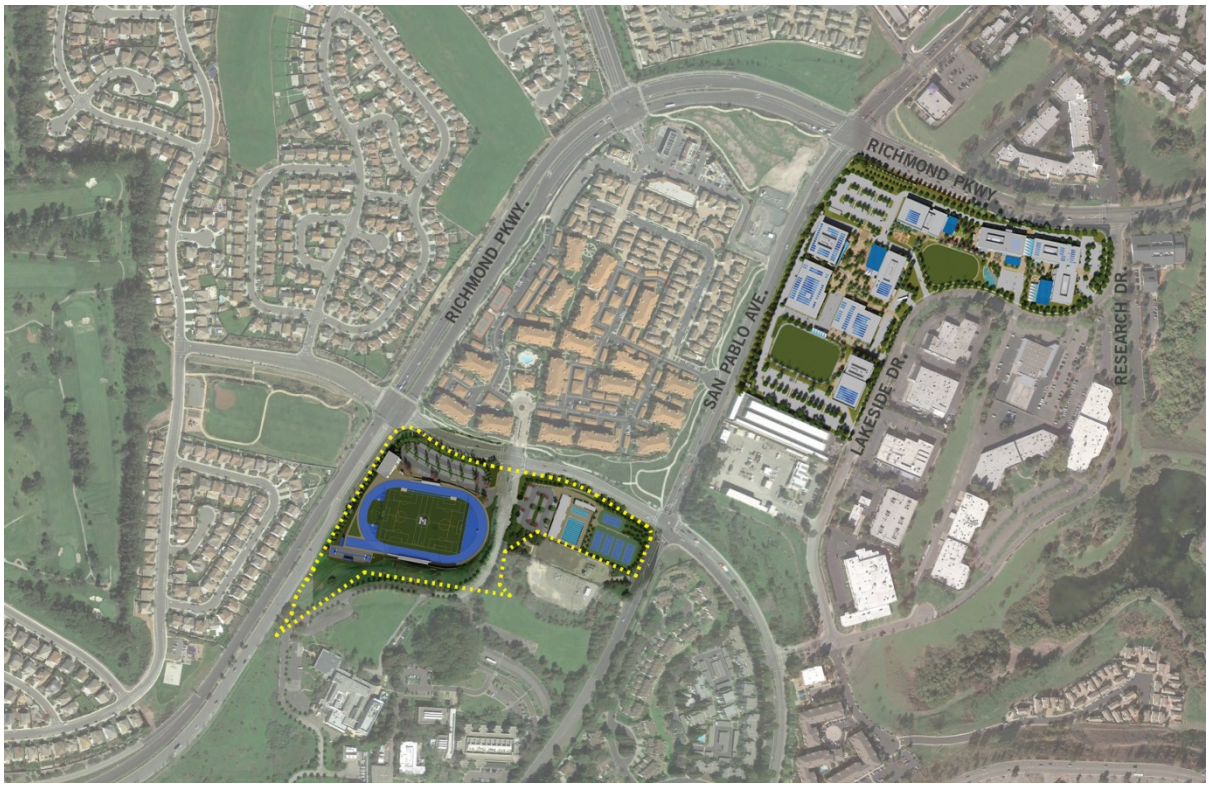
INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

MAKING WAVES ACADEMY HILLTOP SPORTS FACILITY

RICHMOND, CALIFORNIA



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May 2019

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MITIGATED NEGATIVE DECLARATION

MAKING WAVES ACADEMY HILLTOP SPORTS FACILITY

RICHMOND, CALIFORNIA

Submitted to:

City of Richmond Planning Division
450 Civic Center Plaza, 2nd Floor
Richmond, California 94804
Attention: Hector Lopez

Prepared by:

LSA
157 Park Place
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Project No. CIR1601.07

LSA

May 2019

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LIST OF ABBREVIATIONS AND ACRONYMS

AB 52	California Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
APN	Assessor's Parcel Number
BAAQMD	Bay Area Air Quality Management District
BESO	Building Energy Saving Ordinance
bgs	below ground surface
BMP	Best Management Practices
CalEEMod	California Emissions Estimator Model
CAP	City of Richmond Climate Action Plan
CASQA	California Stormwater Quality Association
CCTA	Contra Costa Transportation Authority
CNDDB	California Natural Diversity Database
campus	Making Waves Academy
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CGS	California Geological Survey
CH_4	Methane
City	City of Richmond
Clean Air Plan	BAAQMD 2017 Clean Air Plan
CNEL	community noise equivalent level
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	CO_2 equivalents
CCTA	Contra Costa County Transportation Authority
CRHR	California Register of Historical Resources
CUP	Conditional Use Permit
CY	cubic yards
dBA	A-weighted decibels
DTSC	State of California Department of Toxic Substances Control
EIR	Environmental Impact Report
FAR	Floor Area Ratio
Fc	footcandles

FEMA	Federal Emergency Management Agency
FTE	full-time equivalent
GHGs	greenhouse gases
GWP	global warming potential
gpd	gallons per day
HCP/NCCP	East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan
HiAP	Health in All Policies Strategy
IESNA	Illuminating Engineering Society of North America
IL	Light Industrial Zoning District
LED	light-emitting diode
L_{dn}	day-night average level
L_{eq}	Equivalent continuous sound level
LID	low impact development
LOS	Level of Service
$\mu g/m^3$	micrograms per cubic meter
MBTA	Migratory Bird Treaty Act
MGD	million gallons per day
MLD	Native American Most Likely Descendant
MMI	Modified Mercalli Intensity
MRP	Municipal Regional Permit
msl	mean sea level
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
NAHC	Native American Heritage Commission
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
Pb	lead
PCI	Public, Cultural, Institutional
PG&E	Pacific Gas & Electric Company
PM	particulate matter
POTWs	publicly owned treatment works
PRC	Public Resources Code
proposed project	Making Waves Academy Hilltop Sports Facility
Qha	Holocene-age Alluvium
RFD	Richmond Fire Department
Richmond Plant	Richmond Municipal Sewer District Water Pollution Control Plant

ROGs	Reactive Organic Gases
RPD	Richmond Police Department
RWQCB	San Francisco Bay Regional Water Quality Control Board
SCP	Stormwater Control Plan
SMP	Soils Management Plan
SO_2	Sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
TACs	Toxic Air Contaminants
UCMP	University of California Museum of Paleontology
VOCs	Volatile Organic Compounds
WCWD	West County Wastewater District

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1.0 PROJECT INFORMATION

1. **Project Title:**

   Making Waves Academy Hilltop Sports Facility

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

   City of Richmond Planning Division
   450 Civic Center Plaza, 2nd Floor
   Richmond, California 94804

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

   Hector Lopez, Senior Planner
   510.620.6702
   Hector.Lopez@ci.richmond.ca.us

4. **Project Location:**

   The proposed sports facility ("proposed project" or "project") would be located on approximately 13 acres south of Hilltop Drive between Richmond Parkway and San Pablo Avenue in the City of Richmond, Contra Costa County, California (Assessor's Parcel Number [APN] 405-050-052) (Figures 1 and 2).

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

   Making Waves Foundation
   3220 Bloom Drive
   Richmond, California 94806

6. **General Plan Designation:**

   Business/Light Industrial[1]

7. **Zoning:**

   Light Industrial (IL)[1]

8. **Description of Project:**

   Making Waves Foundation is seeking a General Plan Amendment, Rezoning, Conditional Use Permit (CUP), and Design Review approval for development of a sport facility ("proposed project" or "sports facility") to serve the Making Waves Academy middle and high school located on San Pablo Avenue, approximately 0.4-mile northeast of the project site. The project would include a regulation soccer field, 400-meter track, swim center, tennis courts, and associated parking and landscaping. Proposed recreation facilities would support team sports for the school and supplement the play areas and fields available at the main school campus. In

[1] The proposed project would require a General Plan Amendment and Rezoning to change the land use and zoning designations from Business/Light Industrial (IL) to Public, Cultural and Institutional (PCI). The PCI designation would allow school accessory uses with a Conditional Use Permit (CUP).

addition, the public would have access to the facilities when school is not in session (evenings, weekends, and during summer). Proposed project components are described in further detail below and shown on Figures 3 and 4.

Proposed Development and Uses. The proposed project would consist of the following three components:

- **Main Field.** The Main Field would include a regulation-size, artificial turf soccer field, a 400-meter rubber coated track with nine lanes, an approximately 4,866-square foot field house, ticket booth (approximately 114 square feet) and trash enclosure (approximately 102 square feet). The field house would provide restrooms for spectators and athletes, storage, concessions, team room, locker rooms, trainer's room, and an office. A parking lot with approximately 113 vehicle parking spaces and 16 bicycle parking spaces would be located just south of Hilltop Drive to serve the proposed Main Field. The Main Field would have bleacher seating for approximately 624 people.

- **Swim Center.** The Swim Center would consist of a 30-meter by 25-yard pool with 12 lanes, a "learn to swim" pool, and an approximately 7,628-square foot pool house providing restrooms, changing rooms, showers, and associated facilities. A parking lot with approximately 46 spaces would be located on the east side of the existing driveway to serve both the Swim Center and the Tennis Courts. The pool is not enclosed within a structure, but it is surrounded by buildings and fencing to create a secure perimeter. Enclosing the pool is being studied and the design may change to provide for an enclosed pool. Enclosing the pool would reduce noise from the project and otherwise would not substantially change the project's impacts disclosed in this document. Prior to constructing the swim center, Making Waves may develop this area for use as a practice field (artificial turf) with a small restroom facility. This use would be a less intensive use of the space than the proposed Swim Center; therefore, environmental impacts would not be greater than those disclosed in this document.

- **Tennis Courts.** Five tennis courts and an approximately 1,623-square foot tennis building would be located just east of the Swim Center. The tennis building would have a locker room, a team room, toilet rooms, and a storage room that opens to the pool deck for pool storage.

Both the Main Field and Swim Center/Tennis Courts would have their own identifiable gated entrance, which could be separately secured. All of the proposed buildings would be one-story tall, constructed of site-cast concrete with painted recessed panels projecting aluminum sunshades and identity graphics panels. The construction type and color scheme would be similar to the architecture of the academic buildings on the main campus to create a consistent architectural style.

Lighting. New light-emitting diode (LED) pathway safety lighting, fixtures, and poles would be installed along pathways and parking lots for security lighting. Additional light at the Main Field, Swim Center and Tennis Courts would also be installed to accommodate night use. The field lights would be used year round outside of daylight hours, until 10:00 p.m. Four 80-foot tall

lights would be installed at the Main Field, four 50-foot tall lights would be installed at the pool area of the Swim Center, and seven lights would be installed within the Tennis Area (four at 60 feet and three at 40 feet). Lights would be placed on electronic controls and would not be used when not needed or past the hour of 10:00 p.m. All light fixtures would use efficient LED bulbs, would be downward-directed to prevent off-site glare, and would be designed to meet the guidelines of "dark sky" compliant lighting.

Landscaping and Stormwater Treatment. As part of the proposed project, the site would be landscaped with trees and drought-tolerate plants. A landscaped buffer would be provided around the perimeter of the site and parking areas would be planted with shade trees and low-lying shrubs. Planting materials would include sweet olive, bird of paradise, dwarf coyote bush, Berkeley sedge, rosemary, coast live oak, and coast redwood.

The proposed project would include bio-retention areas to capture and treat stormwater prior to discharge into the City's stormwater drainage system.

Circulation. Vehicular access to the proposed project would be provided via Vista Del Mar, a minor street providing access from Hilltop Drive, which currently serves the site and the adjacent JOINN Innovation Park located just south of the project site. Making Waves Foundation intends to utilize a shuttle bus to transport students the approximately 0.4-mile between the main campus and the sports facility.

The pedestrian route between the school and the proposed project site is via Lakeside Drive, Research Drive, Hilltop Drive, and Vista Del Mar or the new pedestrian access from Hilltop Drive to the sports facility. Lakeside Drive and Research Drive have five-foot sidewalks on both sides of the street. Hilltop Drive has a five-foot sidewalk on the south side of the street. On the north side of the street, Hilltop Drive has a five-foot sidewalk east of San Pablo Avenue and a ten-foot sidewalk west of San Pablo Avenue. The proposed project would provide 16 short-term bicycle racks on site. Bicycle lanes or routes are not present along the route between the school and the project site. In the project area, the Richmond Bicycle Master Plan identifies Class II bike lanes along Hilltop Drive and Richmond Parkway and a Class III bikeway along Research Drive.

Operation. Primary use of the proposed project would be for extracurricular activities (e.g., soccer, track and field, tennis, lacrosse, swimming, and water polo) associated with the Making Waves Academy. Physical education would occur primarily on the main school campus; however, the proposed project may be used occasionally as a secondary physical education facility. Neighbor and community use of the proposed project would be allowed through the Neighbor and Community Use Policy, which would specify the types of allowed uses and available times. Use by other organizations, such as the City of Richmond or the YMCA, would be memorialized with a document such as a memorandum of understanding. A fee would be charged for community use in order to cover the costs of operating the facility.

The facility would be used Monday through Sunday. The facility would open no earlier than 5:00 a.m. and close no later than 10:00 p.m. No games or tournaments would start before 8:00 a.m.

Larger events, such as sports tournaments, would occur occasionally. Large events are defined as events with more than one game in a specific day or events that require more parking than is provided at the facility. The applicant proposes specific policies for large events, including on-site traffic management personnel during large events and if, off-site parking is required, shuttle vans or other means of transportation would be provided for visitors who park at the school's main campus.

Construction. Construction of the proposed project is anticipated to commence in March 2020 and last approximately 10 months. Construction access would be from the existing driveway on Hilltop Drive. Construction staging would occur at the proposed project site.

9. Surrounding Land Uses and Setting:

The proposed project site consists of a vacant 13.05-acre parcel located south of Hilltop Drive between Richmond Parkway to the west and San Pablo Avenue to the east. A portion of the site is currently improved with a driveway (Vista Del Mar Drive) that serves the proposed project site and the adjacent JOINN Innovation campus, which is located just south of the proposed project site.

Elevations at the proposed project site range from approximately 160 to 210 feet above sea level. The current grade is flat to gently sloping, with the steepest slopes along Vista del Mar Drive where the ground has been sloped to support the road. The project site is dominated by ruderal, herbaceous vegetation with rows of non-native and ornamental trees along Vista del Mar, Hilltop Drive, and San Pablo Avenue.

Surrounding land uses include the San Marcos Apartments located across Hilltop Drive to the north; the Village Condominium complex located across San Pablo Avenue to the east, and the Country Club Vista Park located across Richmond Parkway to the west.

The proposed project site is currently designated Business/Light Industrial in the Land Use Element of the City of Richmond General Plan 2030 (2012). The Business/Light Industrial designation includes commercial and institutional uses such as a large-scale research and development campus, light industrial, industrial-related storage and distribution, and office uses. The project proposes to re-designate the project site to Public, Cultural, and Institutional (PCI), which supports public, semi-public, and educational uses such as civic facilities, community centers, libraries, museums, national park facilities, hospitals, and schools.

The current zoning district for the project site is Light Industrial (IL). The proposed project is an accessory use to the nearby Making Waves School. Schools are not permitted in the IL zoning district; therefore, the proposed project proposes to rezone the project site to PCI (Public, Cultural, Institutional), in which school accessory uses are permitted as a conditional use. The PCI zoning district is consistent with the proposed PCI land use designation.

10. Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):

- City of Richmond – General Plan Amendment, Rezoning, Conditional Use Permit, Design Review, Ministerial Permits (e.g., Building Permit, Grading Permit).

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

In February 2019, the City provided formal notification to those California Native American tribes that are traditionally and culturally affiliated with the geographic area within which the proposed project is located pursuant to the consultation requirements of SB 18 and AB 52. To date, two tribes have requested consultation pursuant to Public Resources Code section 21080.3.1, as summarized below:

- Ms. Katherine Erolinda Perez, Chairperson of the North Valley Yokut/Ohlone/Bay Miwuk Tribe, responded via email on March 3, 2019, recommending that the proposed project be monitored by both a qualified archaeologist and a Native American Monitor. The City responded via email to Chairperson Perez indicating that the City would include the tribe's recommendations as part of the project approvals.

- Mr. Ed Silva, Natural Resources Coordinator of the Wilton Rancheria, responded via email on March 6, 2019, requesting consultation with the City. Mr. Silva also requested that Wilton Rancheria tribal representatives observe and participate in all cultural resource studies, and that the City send all existing cultural resources documentation to the tribe. The City responded via email to Mr. Silva thanking him for his feedback.

The IS/MND will be available for a 30-day public review period. The Native American tribal representatives identified above will be notified when the document is posted on the City of Richmond website.

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FIGURE 1

Hilltop Sports Facility
Richmond, Contra Costa County, California

Regional Location

SOURCE: National Geographic (c) 2018; Esri World Street Map (c) 2018.

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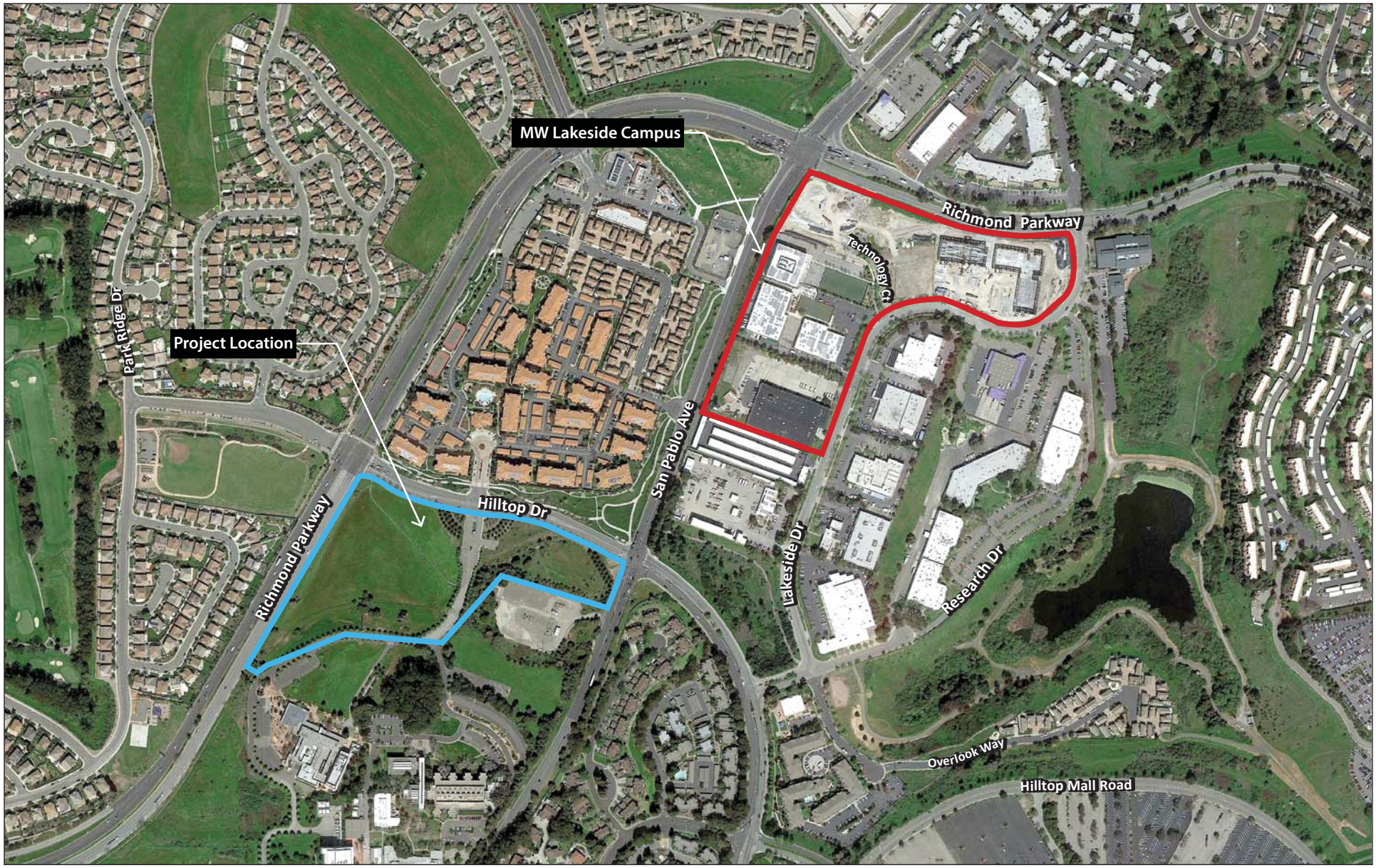

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FIGURE 2

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FEET

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Hilltop Sports Facility
Richmond, Contra Costa County, California

Project Location

SOURCE: GOOGLE EARTH, 4-2-18; LSA, 2018.

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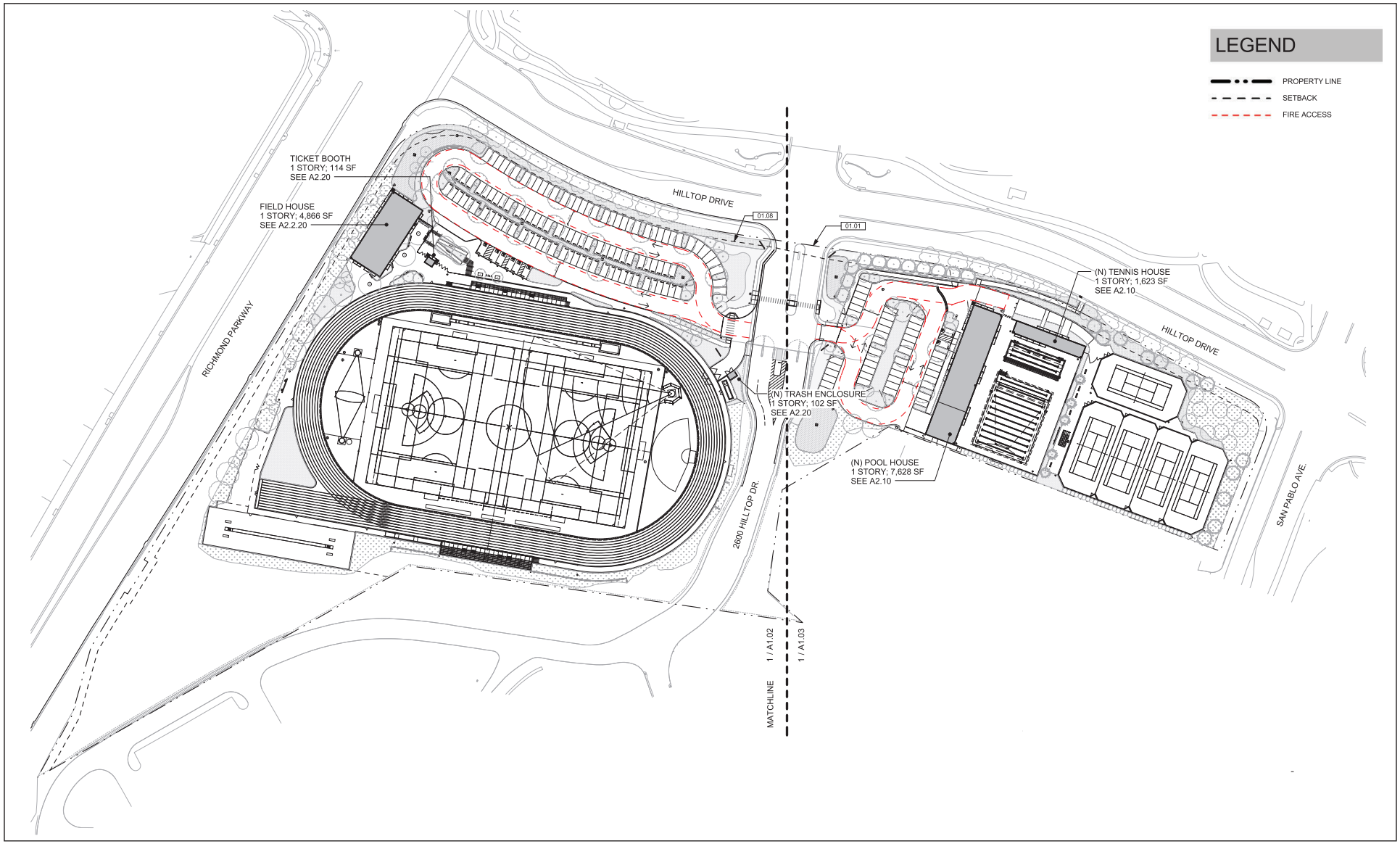

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FIGURE 3

N

NOT TO SCALE

Hilltop Sports Facility

Overall Site Plan

SOURCE: STUDIO BONDI ARCHITECTURE, 2018.

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FIGURE 4

N

NOT TO SCALE

Hilltop Sports Facility
Project Rendering

SOURCE: STUDIO BONDI ARCHITECTURE, 2018.

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2.0 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" or "Less Than Significant with Mitigation Incorporated" as indicated by the checklist in Chapter 3.0.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☒ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

2.1 DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date 6/3/19

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3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Impact Analysis

a. Would the project have a substantial effect on a scenic vista? ***(Less Than Significant Impact)***

A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Aesthetic components of a scenic vista generally include: 1) scenic quality, 2) sensitivity level, and 3) view access. The City of Richmond General Plan Conservation, Natural Resources, and Open Space Element[2] identifies San Francisco and San Pablo Bays, as well as the hillsides surrounding the City as scenic resources. Hillsides include the Berkeley Hills to the southeast, San Pablo Ridge to the southwest, Sobrante Ridge to the east, and Point Richmond hills to the southwest. Hills and ridges are protected through the City of Richmond Hillside Ordinance.

The project site is located approximately 1 mile east and south of San Pablo Bay and views of the Bay are visible from surrounding roadways, but not from those roadways when looking across the site. Views of the Bay are limited from the project site itself due to its elevation relative to adjacent roadways and surrounding development. Vistas at the project site consist primarily of urban land uses, including residential buildings, roadways, landscaping, and other infrastructure. The project site is not a scenic resources and therefore, views of the project area are not scenic vistas. Views of the project area from surrounding roadways, and other public areas blend in with surrounding

[2] Richmond, City of, 2012. *Richmond General Plan 2030 Conservation, Natural Resources, and Open Space Element.* Available online at: http://www.ci.richmond.ca.us/2608/General-Plan-2030 (accessed December 5, 2017).

urban development, especially when viewed from Richmond Parkway, San Pablo Avenue, or the hillside areas of the City.

The proposed project would result in the development of the project area with a sports facility to include a track, tennis courts, pool and associated buildings, landscaping, parking areas and pathways. None of the visual changes that would result from implementation of the proposed project would have a substantial adverse effect on a scenic vista. Proposed improvements would be generally low profile (e.g., at-grade or single-story) and would not block views of scenic resources from any public vantage points where such views are available. The most evident new feature within the viewshed would be the proposed field lights, which would extend approximately 40 to 80 feet high. These poles would be readily visible during daytime hours. However, due to their slender, vertical appearance, they would not be of such physical prominence that their presence would significantly affect a scenic vista.

During the construction period, additional vehicles, workers, and materials coming to and from the site, and site preparation activities would be visible from travelers along adjacent roadways and from residences to the north and east. However, construction activities would be of relatively short duration, intermittent and largely screened.

The proposed project would not include any tall structures or landscaping that would reduce, obstruct or degrade scenic vistas. Therefore, the proposed project would have a less than significant impact on scenic vistas.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ***(No Impact)***

The project site is not located near a state scenic highway. The closest officially designated State scenic highway to the project site is State Route 24[3], located more than 10 miles south of the project site. The project site is not visible from State Route 24 due to distance, topography, and existing development. Therefore, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. There would be no impact related to this topic and no mitigation is required.

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

The project is located in an urban area, within the City of Richmond. The visual character of the project area is characterized by ruderal non-native herbaceous vegetation with rows of non-native and ornamental trees along Vista Del Mar, Hilltop Drive, and San Pablo Avenue. The project area is

[3] California, State of, 2017. Department of Transportation. List of Eligible and Officially Designated State Scenic Highways. Website: http://www.dot.ca.gov/design/lap/livability/scenic-highways/ (accessed December 4, 2017).

bordered immediately to the north by Hilltop Drive, to the west by Richmond Parkway, to the east by San Pablo Avenue and to the south by the existing JOINN Innovation campus. Residential development is visible from the project area to the north and west, across the Richmond Parkway. Views from the project area to the south and east are largely obscured by existing vegetation. Views of and through the project area are generally limited to the immediate vicinity, including from surrounding roadways and the residential development to the north.

Development of the proposed project would change the existing visual character of the project area and vicinity by developing the project area with a sports facility with associated parking and landscaping. The proposed project would include construction of a field house, pool house, tennis building and several accessory structures (e.g., ticket booth, trash enclosure). Proposed buildings would be one-story tall, constructed of site-cast concrete with painted recessed panels projecting aluminum sunshades and identity graphics panels. The construction type and color scheme would be similar to the architecture of the academic buildings on the main campus to create a consistent architectural style.

Per City Municipal Code Chapter 15.04, all projects subject to a conditional use permit must also obtain design review and approval by the City's Design Review Board. The Design Review Board is required to make findings regarding the project design and may only approve a design review application if the application is consistent with: (1) The General Plan and any applicable specific plans; (2) Any applicable design guidelines; (3) Any approved tentative map, Use Permit, Variance, or other planning or zoning approval that the project may require; and (4) The design review criteria in Section 15.04.805.030 (Design Review Criteria).[4]

The proposed project would represent an improvement to the visual quality and character of the project area through development of a cohesive sports facility on a currently vacant site. The project would comply with the proposed PCI zoning, including the permitted intensity and height of development, and other City ordinances and regulations that govern scenic quality, which ensures that the design is high quality.

Therefore, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality and this impact would be less than significant.

*d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? **(Less Than Significant Impact)***

The project area is located in an urban and developed area and existing exterior lighting within the vicinity of the project area consists of security lighting, vehicle head and tail lights on area roadways, and surrounding street lighting.

The proposed project would introduce new sources of light and glare to the area. Buildings associated with the proposed project, including the pool house, field house, and ticket booth would include exterior security lighting. In addition, pathway and parking lot lighting would be provided at

[4] Richmond, City of, 2016. *Zoning and Subdivision Ordinance*, *Richmond Municipal Code*, as amended. November 15.

low lighting levels in an evenly distributed pattern. However, new sources of light and glare associated with buildings, parking lots and paths would not be substantial sources, as the new lights would be designed to shield all light sources so as not to allow spillover light and glare on adjacent properties. Proposed lighting would be consistent with existing lighting in the project area and would blend in with surrounding urban development. In addition, daytime glare would not be substantial because no highly-reflective elements are proposed.

The proposed project would be required to comply with the City's Municipal Code Section 15.04.604.050, which requires that outdoor lighting for walkways, roadways, parking facilities, and outdoor security that equal or exceed 2000 lumens must be fully shielded.[5] Additionally, compliance with Title 24 lighting standards would ensure that lighting impacts from proposed security lighting would be less than significant.

In addition to security lighting on buildings, the proposed sports facility would include light-emitting diode (LED) lighting poles that would be approximately 40-80 feet in height for night-lighting of the fields and tennis courts. The proposed light pole locations and the orientation of the light fixtures are designed to minimize potential spill light beyond the perimeter of the sports fields.[6] The proposed light fixtures would incorporate design elements to better direct the light beam inward and toward the ground and to reduce spill light and glare, while providing sufficient light levels recommended by the Illuminating Engineering Society of North America (IESNA) RP-6 *Current Recommended Practice for Sports Lighting*. All field lights would be design to meet the guidelines of "dark sky" compliant lighting. The ability to precisely position and focus the fixtures, in addition to their shielding design, would minimize potential light and glare impacts.

The photometric analysis prepared for the proposed project shows that the illumination from the proposed lighting at the property line boundaries would be between 0.0 and 0.2 footcandles[7] (fc), which is approximately the same as a full moonlit night (approximately 0.1 fc). For comparison, examples of commonly experienced light levels in other settings are shown below:

- Typical neighborhood streetlight: 1 to 5 fc
- Main road intersection street lighting: 2.5 to 3 fc
- Residential lighting at night: 7 to 10 fc
- Dusk: approximately 10 fc
- Gas station canopies: 25 to 30 fc

The proposed project would comply with the City's Municipal Code Section 15.04.604.060, which requires lighting for outdoor court or field games to obtain a use permit. As part of the use permit

5 Lighting with an initial output below 2000 lumens are not required to be shielded; however, shielding is recommended.

6 Spill light is light that illuminates surfaces beyond the area intended to be illuminated.

7 A footcandle is a common unit of measurement used to calculate adequate lighting levels of workspaces in buildings or outdoor space. It is used to describe the light level that a lamp is expected to provide over the long-term. A horizontal footcandle is the amount of light striking the horizontal plane and a vertical footcandle is the amount of light striking the vertical plane.

application, the applicant has provided the City with a lighting design and a spillover light and glare analysis that shows no significant lighting impacts to adjacent uses. The analysis shows that the project complies with the City's requirements. Therefore, this impact would be less than significant.

3.2 AGRICULTURE AND FORESTRY RESOURCES

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Impact Analysis

a. Would the project 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? ***(No Impact)***

The project site is located within an urbanized area of the City. There are no agricultural uses located within or adjacent to the project site. Additionally, the project site is designated as "Urban and Built-Up Land" by the State Department of Conservation.[8] Therefore, the proposed project would not involve the conversion of agricultural land to a non-agricultural use. The proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide

[8] California, State of, 2016. Department of Conservation. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/dlrp/ciff/ (accessed September 6, 2018).

Importance to a non-agricultural use. The proposed project would have no impact related to this topic.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? ***(No Impact)***

The project site is zoned IL on the City's zoning map.[9] The project site is not subject to a Williamson Act contract.[10] Therefore, the proposed project would not conflict with existing zoning for agricultural use or Williamson Act contract.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? ***(No Impact)***

The project site is improved with a roadway serving the JOINN Innovation Park, but is otherwise undeveloped and is surrounded by residential, commercial, and open space uses. The project site is designated IL on the City's zoning map. The Project site does not contain forest land. The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, the proposed project would have no impact related to this topic.

d. Would the project result in the loss of forest land or conversion of forestland to non-forest use? ***(No Impact)***

Refer to section 3.2.1.c. The proposed project would not result in the loss of forest land or conversion of forest land to a non-forest use. Therefore, the proposed project would have no impact related to this topic.

e. Would the project 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? ***(No Impact)***

Refer to Sections 3.2.1.a and 3.2.1.c. The proposed project would not involve any other changes to the existing environment that, due to their location or nature, could result in conversion of Farmland to a non-agricultural use, or conversion of forest land to a non-forest use. Therefore, the proposed project would have no impact.

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9 Richmond, City of. City of Richmond Zoning Information (map). Website: 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 (accessed September 6, 2018).

10 California Department of Conservation, 2013. Contra Costa County Williamson Act FY 2012/2013 (map). Available online at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/ (accessed September 6, 2018).

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Impact Analysis

The proposed project is located in the City of Richmond, and is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. In Richmond, and the rest of the air basin, exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10}, $PM_{2.5}$), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and particulate matter standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal $PM_{2.5}$ 24-hour standard

a. Would the project conflict with or obstruct implementation of the applicable air quality plan? ***(Less Than Significant with Mitigation Incorporated)***

The applicable air quality plan is the BAAQMD 2017 Clean Air Plan (Clean Air Plan), which was adopted on April 19, 2017. The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest heath risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas emissions to protect the climate.

Consistency with the Clean Air Plan can be determined if the Project: 1) supports the goals of the Clean Air Plan; 2) includes applicable control measures from the Clean Air Plan; and 3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

Clean Air Plan Goals. The primary goals of the Bay Area Clean Air Plan are to: attain air quality standards; reduce population exposure and protect public health in the Bay Area; and reduce greenhouse gas emissions and protect climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed in Section 3.3.1.b, implementation of the proposed project would result in less than significant operation-period emissions and, with implementation of Compliance Measure AIR-1, the project would comply with all BAAQMD recommended measures to reduce particulate matter emission during construction. Therefore, the project would not conflict with the Clean Air Plan goals.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures, Waste Management Measures, Water Measures, and Super-GHG Pollutants Measures.

> ***Stationary Source Control Measures.*** The stationary source measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by the BAAQMD's Permit and Inspection programs. Since the project would not include any stationary sources, the Stationary Source Measures of the Clean Air Plan are not applicable to the project.
>
> ***Transportation Control Measures.*** The BAAQMD identifies Transportation Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed project would use a shuttle van as the primary means of transporting students between the main campus on Lakeside Drive and the sports complex. In addition, pedestrian access would be provided from Hilltop Drive to the sports complex via a pedestrian pathway, should staff, students, or community members choose to walk to the facility. Student-athletes who currently receive rides from the school to the current off-site locations for practices or games/meets would be able to take the shuttle or walk from the main campus to the sports complex, potentially resulting in a modest reduction in overall vehicle trips on the street network on practice days and game/meet days. The proposed project would also provide bike racks on-site to encourage bicycle riding. Therefore, the project would promote the BAAQMD's initiatives to reduce vehicle trips and vehicle miles traveled and would increase the use of alternate means of transportation.

Energy Control Measures. The Clean Air Plan also includes Energy Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG-intensive fuel sources for electricity generation. Since these measures apply to electrical utility providers and local government agencies (and not individual projects), the energy control measures of the Clean Air Plan are not applicable to the project.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best GHG control practices and policies. In addition to the ball fields and pool, the project would include an approximately 4,866-square foot field house, an approximately 114-square foot ticket booth, and an approximately 7,628-square foot pool house providing restrooms, changing rooms, showers, and associated facilities. All buildings would be required to comply with the latest Cal Green and other Title 24 Building Code standards. Therefore, the proposed project would not conflict with these measures.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Since the Project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan are not applicable to the project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to adopt ordinances that promote urban-tree plantings. Since the project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the project.

Waste Management Control Measures. The Waste Management Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Since these measures apply to POTWs and local government agencies (and not individual projects), the Water Control Measures are not applicable to the project. The proposed project would meet California Building Code requirements that reduce water use.

Super GHG Control Measures. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Since these measures do not apply to individual projects, the Super-GHG Control Measures are not applicable to the project.

Clean Air Plan Implementation. As discussed above, implementation of the proposed project would implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures and construction measures that reduce particulate matter, as identified in the discussion below. Therefore, the project would not disrupt or hinder implementation of a control measure from the Clean Air Plan and this impact would be less than significant.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? ***(Less Than Significant with Mitigation Incorporated)***

Both State and federal governments have established health-based Ambient Air Quality Standards for six criteria air pollutants: CO, ozone (O_3), NO_2, SO_2, Pb, and suspended particulate matter (PM). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. As identified above, the BAAQMD is under State non-attainment status for ozone, PM_{10}, and $PM_{2.5}$ standards. The Air Basin is also classified as non-attainment for both the federal ozone 8-hour standard and the federal $PM_{2.5}$ 24-hour standard.

Air quality standards for the proposed project are regulated by the BAAQMD CEQA Air Quality Guidelines. According to the BAAQMD CEQA Air Quality Guidelines, to meet air quality standards for operational-related criteria air pollutant and air precursor impacts, the project must not:

- Contribute to CO concentrations exceeding the State ambient air quality standards;
- Generate average daily construction emissions of Reactive Organic Gases (ROG), NO_x or $PM_{2.5}$ greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day; or
- Generate average operational emissions of ROG, NO_x or $PM_{2.5}$ of greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

CEQA defines a cumulative impact as two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts. According to the BAAQMD, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Therefore, if daily average or annual emissions of operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would make a cumulatively considerable contribution to a cumulative significant impact.

The following sections describe the proposed project's construction- and operation-related air quality impacts and CO impacts.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Project construction activities would include grading, paving, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM_{10}). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, volatile organic compounds (VOCs) and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, consistent with BAAQMD recommendations. Project construction would commence in March 2020 and would occur for approximately 10 months. Construction-related emissions are presented in Table 1. CalEEMod output sheets are included in Appendix A.

Table 1: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Average Daily Emissions	2.9	25.1	1.1	1.0
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceed Threshold?	**No**	**No**	**No**	**No**

Source: LSA (October 2018).

As shown in Table 1, construction emissions associated with the project would be less than significant for ROG, NO_x, $PM_{2.5}$, and PM_{10} exhaust emissions. Even though emissions would be less than the applicable thresholds, the BAAQMD requires the implementation of the BAAQMD's Basic Construction Mitigation Measures to reduce construction fugitive dust impacts:

AIR-1: In order to meet the BAAQMD fugitive dust threshold, the following BAAQMD Basic Construction Mitigation Measures shall be implemented:

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

Operational Air Quality Emissions. Long-term air pollutant emission impacts are those associated with area sources and mobile sources related to the proposed project. In addition to the short-term construction emissions, the project would also generate long-term air pollutant emissions, such as those associated with changes in permanent use of the project site. These long-term emissions are primarily mobile source emissions that would result from vehicle trips associated with the proposed project. Area sources, such as natural gas heaters, landscape equipment, and use of consumer products, would also result in pollutant emissions.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes.

Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources. Area source emissions associated with the project would include emissions from water heating and the use of landscaping equipment.

Emission estimates for operation of the project were calculated using CalEEMod. Model results are shown in Table 2. Trip generation rates for the project were based on the project's trip generation estimates, as identified in Hilltop Sports Complex Transportation Review Memorandum.[11] Based on the Transportation Review Memorandum, the proposed project would generate approximately 17 PM peak hour trips during a typical weekday and approximately 130 in-bound vehicle trips during peak events. Therefore, to be conservative, this analysis assumes that the proposed project would generate approximately 170 average daily trips on the weekdays and Sundays, and approximately 260 average daily trips on Saturdays.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily emissions associated with project operational trip generation, energy, and area sources are identified in Table 2 for ROG, NO_x, PM_{10}, and $PM_{2.5}$. The results shown in Table 2 indicate the project would not exceed the significance criteria for daily ROG, NO_2, PM_{10} or $PM_{2.5}$ emissions; therefore, the proposed project would not have a significant effect on regional air quality and mitigation would not be required. This impact would be less than significant.

[11] Kittleson & Associates, 2017. Hilltop Sports Complex – Transportation Review. November 16.

Table 2: Project Operational Emissions

	ROG	NO_x	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Area Source Emissions	0.4	0.0	0.0	0.0
Energy Source Emissions	0.0	0.0	0.0	0.0
Mobile Source Emissions	0.5	1.9	1.2	0.3
Total Emissions	**0.9**	**1.9**	**1.2**	**0.3**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceed Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Area Source Emissions	0.1	0.0	0.0	0.0
Energy Source Emissions	0.0	0.0	0.0	0.0
Mobile Source Emissions	0.1	0.2	0.1	0.0
Total Emissions	**0.2**	**0.2**	**0.1**	**0.0**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceed Threshold?	**No**	**No**	**No**	**No**

Source: LSA (October 2018).

Localized CO Impacts. The BAAQMD has established a screening methodology that provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less than significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans;

- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and

- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

The proposed project would not conflict with standards established by the Contra Costa County Transportation Authority (CCTA) for designated roads and highways, a regional transportation plan, or other agency plans. The project site is not located in an area where vertical or horizontal mixing of air is substantially limited. As identified in the Transportation Review Memorandum, the project's maximum peak hour trip generation would typically be 17 PM peak hour trips; therefore, the project's contribution to peak hour traffic volumes at intersections in the vicinity of the project site would be well below 44,000 vehicles per hour. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards and this impact would be less than significant.

As discussed above, implementation of the proposed project would generate less than significant construction and operational emissions. As shown in the project-specific air quality impacts discussion above, the proposed project would not result in individually significant impacts and therefore would also not make a cumulatively considerable contribution to significant cumulative regional air quality impacts. This impact would be considered less than significant.

c. Would the project expose sensitive receptors to substantial pollutant concentrations? ***(Less Than Significant Impact)***

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks. The closest sensitive receptors to the proposed project include the San Marcos Apartments, located approximately 135 feet from the project site and the single-family residences along Richmond Parkway, located approximately 180 feet from the project site.

According to the BAAQMD, a project would result in a significant impact if it would: individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10.0 in one million, increased non-cancer risk of greater than 1.0 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). A significant cumulative impact would occur if the project in combination with other projects located within a 1,000-foot radius of the project site would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100.0 in one million, an increased non-cancer risk of greater than 10.0 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis. Impacts from substantial pollutant concentrations are discussed below.

Construction of the proposed project may expose surrounding sensitive receptors (e.g., the San Marcos Apartments and the single-family residences along Richmond Parkway, located approximately 180 feet from the project site) to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement Mitigation Measure AIR-1 described above. With implementation of this mitigation measure, project construction pollutant emissions would be below the BAAQMD significance thresholds. Once the project is constructed, the project would not be a source of substantial pollutant emissions. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during project construction and operation, and potential impacts would be considered less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? ***(Less Than Significant Impact)***

During project construction, some odors may be present due to diesel exhaust, and these emissions are discussed above. These odors would be temporary and limited to the construction period. The proposed project would not include any activities or operations that would generate objectionable odors and once operational, the project would not be a source of odors or other emissions that could

adversely affect a substantial number of people. Therefore, the proposed project would not result in emissions such as those leading to odors that would adversely affect a substantial number of people. This impact would be less than significant.

3.4 BIOLOGICAL RESOURCES

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

3.4.1 Impact Analysis

This section is based on a Biological Constraints Analysis and Jurisdictional Delineation (Constraints Analysis) prepared by WRA Environmental Consultants in June 2016, unless otherwise noted.[12] The Constraints Analysis is available in Appendix B.

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? ***(Less Than Significant with Mitigation Incorporated)***

A total of 35 special-status species, 25 plant species and 10 wildlife species, have been documented within the vicinity (within 2 miles) of the project site. Based on site hydrology, soil conditions, lack of unique pH, associated vegetation communities, geographic isolation, and land use history of the

[12] WRA Environmental Consultants, 2016. *Biological Constraints Analysis and Jurisdictional Delineation*. June.

project site (former petro-chemical tank-farm), none of these 25 plant species are expected to occur at the project site. In addition, none of the 10 documented wildlife species are likely to be present based on the absence of suitable tidal-marsh or aquatic habitats. However, two special-status species birds not listed in the California Natural Diversity Database (CNDDB) have a moderate potential to occur within the project site, the Nuttall's woodpecker *(Picoides nuttallii)* and Oak titmouse *(Baeolophus inornatus)*. These special-status species are discussed in greater detail below:

Nuttall's woodpecker. The Nutall's woodpecker is associated with oak woodland, riparian woodland, and chaparral habitats. Nuttall's woodpeckers require snags and dead limbs and trunks of oaks, willows, sycamores, cottonwoods, elder, and alder trees to excavate nest cavities. Foraging primarily occurs on the trunks and branches by gleening in crevices and underneath bark. Prey is comprised of arthropods such as beetles, caterpillars, ants, and bugs, in addition to seasonal fruits, berries, poison oak seeds, nuts, and sap.

Although there is a general lack of mature native trees, the pines along the roads entering the project site as well as mature non-native ornamental trees, within and immediately adjacent to the project site, could support cavities capable of providing nesting habitat for this species. Nuttall's woodpecker has a moderate potential to occur.

Oak titmouse. Oak titmouse occurs in open woodlands of oak, pine and oak, and juniper and oak. Nests are often built in woodpecker holes and natural cavities; titmice sometimes partially excavate their own cavity. The species forages for insects on the branches, foliage, and trunks of woodland trees and will opportunistically forage on the ground.

Although there is a general lack of mature native trees, the pines along roads entering the project site, as well as mature non-native ornamental trees within and immediately adjacent to the project site, could support cavities capable of providing nesting habitat for this species. Oak titmouse has a moderate potential to occur.

These two special-status species both have the potential to nest in trees and other vegetation that occurs within the project site. The proposed project could result in direct or indirect impacts, including nest abandonment, on these species or on non-special status migratory birds, which could be considered take under the Migratory Bird Treaty Act (MBTA) and would be considered take under the California Fish and Game Code (CFGC). Implementation of Mitigation Measure BIO-1 would reduce this impact to a less than significant level.

BIO-1: Future construction activities, to the maximum extent feasible, shall occur outside of the nesting season from September 1 to January 31. If ground disturbance or removal of vegetation occurs between February 1 and August 31, pre-construction surveys shall be performed by a qualified biologist no more than 14 days prior to commencement of such activities to determine the presence and location of nesting bird species. If active nests are present, temporary protective nesting season buffers shall be established to avoid direct mortality of these birds, nests, or young. The appropriate buffer distance is dependent on the species, surrounding vegetation, and topography and shall be determined by a qualified biologist as appropriate to

prevent nest abandonment and direct mortality during construction. The buffer shall remain in place until the nest is abandoned or the young have fledged.

b. Would the project 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 Game or U.S. Fish and Wildlife Service? ***(No Impact)***

As noted in the Constraints Analysis, the project site is comprised of non-sensitive biological communities including ruderal grassland, landscaped, and developed areas. No riparian habitat or other sensitive natural communities are located on the Project site. Therefore, the proposed project would have no impact related to riparian habitats or other sensitive natural communities.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ***(No Impact)***

As noted above, the project site does not support any sensitive natural communities, including state or federally protected wetlands. No changes (removal, filling, interruption, etc.) are proposed to any wetlands as a result of the proposed project. Therefore, the proposed project would have no impact related to wetlands.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ***(Less Than Significant with Mitigation Incorporated)***

The Project site is separated from other areas by streets on three sides and surrounded by urban development. Accordingly, the Project would not interfere with the movement of wildlife species or a wildlife corridor. As noted above, the Project site lacks aquatic habitat and thus the Project would not interfere with fish migration. Except for birds, the Project site also lacks appropriate habitat for native wildlife nursery sites and the Project would not interfere with wildlife nurseries.

All native birds and their nests, regardless of their regulatory status, are protected under the federal MBTA and CFGC. Site clearing activities (e.g., grubbing, grading, trenching, and tree removal or pruning) could cause direct or indirect impacts to nesting birds caused by the destruction or abandonment of occupied nests.

As noted above, two special-status species both have the potential to nest in trees and other vegetation that occurs within the project site. The proposed project could result in direct or indirect impacts including nest abandonment, which could be considered take under the MBTA and would be considered take under the CFGC. Implementation of Mitigation Measure BIO-1 would ensure that potentially significant impacts to migratory birds and/or other special-status birds would be reduced to a less than significant level.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***(Less Than Significant with Mitigation Incorporated)***

All trees within the project site occur on private property, and therefore are not protected under the tree ordinance for the City of Richmond. However, if any trees adjacent to the project site that line Richmond Parkway or Hilltop Drive would be removed or pruned as part of site improvements, the project applicant would be required to obtain the necessary tree removal permits through the City of Richmond. The City's Tree Ordinance prohibits the trimming, pruning or removal of trees, shrubs or plants owned by the City of Richmond in order to protect the trees, which are considered important aesthetic and ecological resources that contribute to the character of an area. If Implementation of the mitigation measure described below would ensure that potential impacts related to noncompliance with local policies or ordinances would be reduced to a less than significant level.

BIO-2: Prior to the initiation of any construction activities, a certified arborist shall conduct a tree survey of trees on public property adjacent to the Project site that may need to be pruned or removed for proposed project construction. If any trees on public property have the potential to be adversely affected by construction activities, the project applicant shall obtain a tree removal permit from the City prior to the removal or pruning of any trees.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? ***(No Impact)***

The project site is not within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the proposed project would have no impact.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 Impact Analysis

The following section is based on the information provided in the Cultural Resources Study[13] prepared for the proposed project by LSA. Unless otherwise noted, the following analysis is based on the Cultural Resources Study.

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? ***(Less Than Significant with Mitigation Incorporated)***

A historical resource defined by CEQA includes one or more of the following criteria: 1) the resource is listed, or found eligible for listing in, the California Register of Historical Resources (CRHR); 2) listed in a local register of historical resources as defined by Public Resources Code (PRC) Section 5020.1(k); 3) identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or 4) determined to be a historical resource by the project's lead agency (PRC Section 21084.1; CEQA Guidelines Section 15064.(a)). Under CEQA, historical resources include built-environment resources and archaeological sites.

The Project site is vacant and therefore does not have any built-environment resources that could be historical resources. In addition, the Project site is not listed on a national, state, or local register of historic places. The Cultural Resources Study prepared for the proposed project did not identify archaeological cultural resources in or adjacent to the project site. Despite the negative results of the study, the potential for encountering intact archaeological deposits and/or human remains during project construction cannot be ruled out (human remains are discussed in subsection (d), below). Impacts to archaeological deposits that qualify as historical resources could potentially be significant under CEQA. Implementation of the following mitigation measure would reduce potential impacts to cultural resources or their accidental discovery during project construction to a less than significant level.

CULT-1: Prior to the issuance of a grading permit by the City, the project applicant shall retain a qualified archaeologist to train project construction workers involved in ground-disturbing activities on the types of cultural resources that could be found in

[13] LSA Associates, Inc., 2018. *Cultural Resources Study for the Hilltop Sports Complex for the Making Waves Academy, Richmond, California (LSA Project #CIR1601.07)*. October 12.

site soils. The qualified archaeologist and a Native American monitor shall monitor ground disturbing activities throughout the construction period. In the event unknown pre-contact or historic-period archaeological materials are encountered during project activities, all work within 50 feet of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resources materials may include precontact resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations shall be required to mitigate adverse impacts from project implementation. These additional studies may include, but are not limited to recordation, archaeological excavation, or significance evaluation.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Per CEQA Guidelines Section 15064.5(c)(1), "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource." Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California PRC Section 21083.2). As described in Section 3.5.1.a, unknown archaeological resources or artifacts associated with previously identified resources could be discovered during construction. Mitigation Measure CULT-1 requires that the project contractor halt work and consult a qualified archaeologist who will determine the best way to minimize significant impacts to the resource if unknown archaeological resources are discovered during construction. Therefore, adherence to the requirements in Mitigation Measure CULT-1 would ensure potential impacts to archaeological resources would be less than significant.

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries?

Despite the negative results of the Cultural Resources Study, the potential for encountering intact human remains during project construction cannot be ruled out. Implementation of the following mitigation measure would reduce potential impacts to human remains or their accidental discovery during project construction to a less than significant level.

CULT-2: In the event human remains are uncovered, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, a qualified archaeologist shall assess the situation and consult with agencies, as appropriate. Project personnel shall not collect or move any human remains or associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Work within 25 feet of the discovery shall resume only after the MLD has inspected the site, provided recommendations, and the remains and associated grave goods removed from the

site by a qualified archaeologist in consultation with the MLD. If no MLD is identified or the MLD declines to inspect the site or provide recommendations, work can resume after the remains and associated grave goods are removed from the site by a qualified archaeologist. The qualified archaeologist shall rebury the remains and associated grave goods at a nearby location that would not be subject to ground disturbance.

3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Impact Analysis

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? ***(Less Than Significant Impact)***

The proposed project would increase the demand for electricity, natural gas, and gasoline. The discussion and analysis provided below is based on data included in the CalEEMod output, which is included in Appendix A.

Construction-Period Energy Use. The anticipated construction schedule assumes that the proposed project would be built over a 10-month period. The proposed project would require grading, site preparation, and building activities during construction.

Construction of the proposed project would require energy for the manufacture and transportation of building materials, preparation of the site for grading activities and building construction. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. In order to increase energy efficiency on the site during Project construction, the Project would restrict equipment idling times to 5 minutes or less and would require construction workers to shut off idle equipment, as required by Mitigation Measure AIR-1. In addition, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the proposed project. Energy usage on the proposed project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources, and would have no discernable effect on State supplies. Environmental impacts from emissions associated with fuel combustion are analyzed in the air quality analysis above and greenhouse gas emission analysis below, and found to be less than significant or less than significant with mitigation. Therefore, construction energy impacts would be less than significant.

Operational Energy Use. Typically, energy consumption is associated with fuel used for vehicle trips and natural gas and energy electricity use. The project does not rely on natural gas as a fuel source. Therefore, energy use consumed by the proposed project would only be associated with electricity consumption and fuel used for vehicle trips associated with the proposed project. LSA estimated

energy and electricity consumption using default energy intensities by land use in CalEEMod. In addition, the proposed buildings would be constructed to 2019 CALGreen and Title 24, Part 6 standards, which was included in CalEEMod. Electricity and natural gas usage estimates associated with the proposed project are shown in Table 3.

In addition, the proposed project would result in energy usage associated with gasoline to fuel Project-related trips. Based on the CalEEMod analysis, the proposed project would result in approximately 382,560 vehicle miles traveled (VMT) per year. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.0 mpg in 2015.[14] Therefore, using the USEPA fuel economy estimates for 2015, the proposed project would result in the consumption of approximately 17,389 gallons of gasoline per year. Table 3, below, shows the estimated potential increased electricity and natural gas demand associated with the proposed project.

Table 3: Estimated Annual Energy Use of Proposed Project

Electricity Use (kWh per year)	Natural Gas Use (therms per year)	Gasoline (gallons per year)
22,260	0	17,389

Source: LSA (April 2019).

As shown in Table 3, the estimated potential increased electricity demand associated with the proposed project is 22,260 kilowatt-hours (kWh) per year. In 2017, California consumed approximately 288,614 gigawatt-hours (GWh) or 288,614,000,000 kWh.[15] Of this total, Contra Costa County consumed 9,778 GWh or 9,778,000,000 kWh.[16] Therefore, electricity demand associated with the proposed project would be less than 0.01 percent of Contra Costa County's total electricity demand. As discussed in the greenhouse gas analysis section, the State's electricity providers are required to increasingly rely on electricity sources that do not produce greenhouse gas emissions, resulting in the State's supply being carbon free by 2045. The project's electricity would be supplied by PG&E, which is subject to this State requirement.

In addition, as discussed above, operation of the proposed project would not require the consumption of natural gas. In 2017, California consumed approximately 12,571 million terms or 12,571,000,000 therms, while Contra Costa County consumed approximately 1,118 million therms

14 U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.gov/archive/publications/national_transportation_statistics/table_04_23/ (accessed April 2019).

15 California Energy Commission. 2017. Energy Consumption Data Management Service. Electricity Consumption by County. Available online at: http://www.ecdms.energy.ca.gov/elecbycounty.aspx. (accessed April 2019).

16 Ibid.

or approximately 1,118,000,000 therms.[17] Therefore, the proposed project would not contribute to Contra Costa County's total natural gas demand.

In addition, the proposed project would result in energy usage associated with gasoline to fuel Project-related trips. As shown above in Table 3, vehicle trips associated with the proposed project would consume approximately 17,389 gallons of gasoline per year. In 2015, vehicles in California consumed approximately 15.1 billion gallons of gasoline.[18] Therefore, gasoline demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California.

The proposed project would use a shuttle van as the primary means of transporting students between the main campus on Lakeside Drive and the sports complex. In addition, pedestrian access would be provided from Hilltop Drive to the sports complex via a pedestrian pathway, should staff, students, or community members choose to walk to the facility. Student-athletes who currently receive rides from the school to the current off-site locations for practices or games/meets would be able to take the shuttle or walk from the main campus to the sports complex, potentially resulting in a modest reduction in overall vehicle trips on the street network and vehicle miles traveled on practice days and game/meet days. The proposed project would also provide bike racks on-site. Therefore, the Project would help to reduce the demand for travel by single occupancy vehicles and help to reduce gasoline and diesel use. In addition, new automobiles purchased by visitors driving to and from the Project site would be subject to fuel economy and efficiency standards applied throughout the State. As such, the fuel efficiency of vehicles associated with the Project site would increase throughout the life of the Project. Therefore, implementation of the proposed project would not result in a substantial increase in transportation-related energy uses.

In addition, the proposed project would be constructed to CALGreen and Title 24, Part 6 standards, which would help to reduce energy consumption. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy that would have an adverse environmental impact and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. Impacts would be less than significant.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? ***(Less Than Significant Impact)***

In 2002, the Legislature passed Senate Bill 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further

[17] California Energy Commission. 2017. Energy Consumption Data Management Service. Gas Consumption by County. Available online at: http://www.ecdms.energy.ca.gov/gasbycounty.aspx. (accessed April 2019).

[18] California Energy Commission. 2017. California Gasoline Data, Facts, and Statistics. Available online at: http://www.energy.ca.gov/almanac/transportation_data/gasoline/ (accessed April 2019).

this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission (ZE) vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC recently adopted the 2017 Integrated Energy Policy Report.[19] The 2017 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2017 Integrated Energy Policy Report covers a broad range of topics, including implementation of Senate Bill 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to Senate Bill 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the Project site during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the Project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2017 Integrated Energy Policy Report. Thus, as shown above, the Project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. Impacts would be less than significant.

[19] California Energy Commission, 2017. 2017 Integrated Energy Policy Report. California Energy Commission. Publication Number: CEC-100-2017-001-CMF.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☒	☐	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.7.1 Impact Analysis

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ***(Less Than Significant Impact)***

Surface fault rupture occurs when the ground surface is broken due to fault movement during an earthquake. Fault rupture is generally expected to occur along active fault traces. Areas susceptible to fault rupture are delineated by the California Geological Survey (CGS) Alquist-Priolo Earthquake Fault Zones and require specific geological investigations prior to certain kinds of development to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake-induced ground failure. The project site is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone and would not exacerbate the area's susceptibility to fault rupture. Therefore, the project would have a less than significant impact on people and structures related to fault rupture.

ii. Strong seismic ground shaking? ***(Less Than Significant With Mitigation)***

Seismic ground shaking generally refers to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. The magnitude of a seismic event is a measure of the energy released by an earthquake; it is assessed by seismographs that measure the amplitude of seismic waves. The intensity of an earthquake is a subjective measure of the perceptible effects of a seismic event at a given point. The Modified Mercalli Intensity (MMI) scale is the most commonly used scale to measure the subjective effects of earthquake intensity. It uses values ranging from I to XII.[20] The closest fault to the project site is the Hayward Fault, located approximately 0.5 mile to the west.

Mapping has been performed by ABAG for the likely shaking intensities in the Bay Area that would have a 10 percent chance of occurring in any 50-year period. A large earthquake (magnitude 6.7 or greater) on one of the major active faults in the region would generate very strong (MMI VIII) ground shaking at the project site.[21]

The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements. No habitable structures would be constructed as part of the proposed project; however, implementation of proposed improvements could increase the use of the project site. The risk of ground shaking impacts is reduced through adherence to the design and materials standards set forth in building codes. The City of Richmond has adopted the 2016 California Building Code (Title 24, California Code of Regulations), which provides for stringent construction requirements on projects in areas of high seismic risk, and will adopt any later building code version, which will be at least as strict as the 2016 CBC for seismic requirements. The design and construction for the proposed project would be required to conform with, or exceed, current best standards for earthquake resistant construction in accordance with the most recent California Building Code adopted by the City and with the generally accepted standards of geotechnical practice for seismic design in Northern California.

Adherence to the 2016 CBC requires a site-specific geotechnical investigation to be performed for the proposed project to evaluate soil stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction, and expansiveness; and that a geotechnical report be prepared to provide recommendations on foundation type and design criteria. A site-specific Geotechnical Investigation[22] has been prepared for the project site. Mitigation Measure GEO-1 requires that the recommendations contained in the Geotechnical Investigation be incorporated into the proposed project. With implementation of

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20 USGS, 2018. The Modified Mercalli Intensity Scale. Available: http://earthquake.usgs.gov/learn/topics/mercalli.php, Accessed October 10, 2018.

21 Association of Bay Area Governments (ABAG), 2018a. Shaking Scenarios Map, Available: http://gis.abag.ca.gov/website/Hazards/?hlyr=haywardSouthNorth&co=6013 , Accessed October 10, 2018.

22 Rockridge Geotechnical, 2017. Geotechnical Investigation, Proposed Sports Complex, Making Waves Campus, 2600 Hilltop Drive, Richmond, California. 20 September.

Mitigation Measure GEO-1, impacts related to strong seismic ground shaking would be less than significant.

GEO-1: Prior to issuance of any site-specific grading or building permits, the City's Building Department shall confirm that project plans have incorporated the recommendations of the geotechnical report to minimize seismic damage to the proposed structures and minimize potential impacts related to the presence of expansive soils.

iii. Seismic-related ground failure, including liquefaction? ***(Less Than Significant Impact)***

Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Soils most susceptible to liquefaction are loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts and gravels with poor drainage, or those capped by or containing seams of impermeable sediment.

CGS has mapped Seismic Hazard Zones that delineate areas susceptible to liquefaction and/or landslides that require proposed new developments in these areas to conduct additional investigation to determine the extent and magnitude of potential ground failure. The project site is located in an area for which earthquake-induced landslide and liquefaction hazards have not yet been evaluated by CGS,[23] however mapping performed by the Association of Bay Area Governments (ABAG) indicates that the project site is in an area of low liquefaction susceptibility.[24]

Information presented in the Phase II Site Investigation[25] prepared for the project site indicates that the site is generally underlain by fine-grained silts and clays with occasional interbeds of silty sand to approximately 30-35 feet below ground surface (bgs). Coarse-grained units consisting of silty sand, poorly- and well-graded sands, and silty gravel with sand are more abundant from approximately 30 to 35 feet bgs to 49 feet bgs. Given the site is underlain by very stiff to hard clay and medium dense to dense clayey sand and groundwater is relatively deep, the potential for liquefaction at the project site is very low.[26]

The risk of liquefaction related impacts is reduced through adherence to plans and specifications approved by the City that meet the design and materials standards set forth in the 2016 CBC, or later applicable code (2019 CBC), which will be just as strict. The 2016 CBC contains requirements for structural design, including seismic design specifications. Compliance with the mandatory building code structural specifications would result in the construction of new structures that resist adverse effects related to liquefaction. With the project's adherence to these existing regulations, the risks to people and structures due to liquefaction would represent a less than significant impact.

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23 California Geological Survey, 2003. Earthquake Zones of Required Investigation, Richmond Quadrangle, Available: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps, Accessed January 29, 2018.

24 ABAG, 2018b. Liquefaction Susceptibility Map, Available: http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility , Accessed January 29.

25 PES Environmental, Inc., 2016a. *Phase II Investigation Report, 2600 Hilltop Drive, Richmond, California.* September 7.

26 Rockridge Geotechnical, 2017, op. cit.

Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surface soils are transported downslope or in the direction of a free face by earthquake and gravitational forces. The project site is relatively flat and development of the proposed project would not exacerbate lateral spreading. Therefore, the proposed project would have a less than significant impact related to lateral spreading.

iv. Landslides? ***(Less Than Significant Impact)***

A landslide generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The project site is located at an elevation of approximately 160 feet above mean sea level and the general topographic gradient is in a north/northwest direction.[27] The current grade of the project site is flat to gently sloping with the steepest slopes located along Vista Del Mar, where the ground has been sloped to support the road. A landscaped hill, approximately 50 to 60 feet high is located to the south, separating the proposed sports facility from the adjacent JOINN Innovation Campus. Proposed improvements would be located in the relatively flat portion of the project site closest to Hilltop Drive.

As described above, the project site is located in an area for which earthquake-induced landslide and liquefaction hazards have not yet been evaluated by CGS.[28] According to the City of Richmond General Plan 2030, the eastern portion of the site is considered "stable" (e.g., areas of 0 - 5 percent slope that are not underlain by landslide deposits), and the western portion of the site is considered "moderately stable" (e.g., areas of greater than 15 percent slope that are underlain by bedrock units susceptible to landsliding but not underlain by landslide deposits).[29]

No habitable structures would be constructed as part of the proposed project nor would construction of the proposed project increase the potential for landslide hazards on any adjacent slopes. As described above, a hill is located to the south of the project site; however, this hill is heavily vegetated and shows no evidence of previous landslide. Therefore, the proposed project would not expose people or structures to potential substantial adverse effects from landslides. This impact would be less than significant and no mitigation is required.

b. Would the project result in substantial soil erosion or the loss of topsoil? ***(Less Than Significant Impact)***

The potential for soil erosion exists during the period of earthwork activities and between the time when earthwork is completed and new vegetation is established or hardscape is installed. Exposed soils could be entrained in stormwater runoff and transported off the project site. However, this

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27 Ibid.

28 CGS, 2003. Earthquake Zones of Required Investigation, Richmond Quadrangle, Available: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps, Accessed October 12, 2018.

29 Richmond, City of, 2012b. City of Richmond General Plan 2030, Map 12.1 - Landside Potential, Available: http://www.ci.richmond.ca.us/DocumentCenter/View/8854/Map-121---Landslide-Potential?bidId= , Accessed October 12, 2018.

impact would be reduced to a less than significant level through compliance with water quality control measures, which include preparation of a Stormwater Pollution Prevention Plan (SWPPP) (refer to Section 3.10, Hydrology and Water Quality). Although designed primarily to protect stormwater quality, the SWPPP would incorporate Best Management Practices (BMPs) to minimize erosion. Additional details regarding the SWPPP are provided in Section 3.10, Hydrology and Water Quality of this Initial Study.

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? ***(Less Than Significant Impact)***

As described in Section 4.7.1.a, soils on the project site would not be subject to liquefaction, lateral spreading, or landslides. Additionally, the proposed project would be required to conform with the California Building Code, which would reduce risks related to unstable soils. Therefore, the proposed project would have a less than significant impact related to unstable soils.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? ***(Less Than Significant with Mitigation Incorporated)***

Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume.[30]

The Geotechnical Investigation indicated that the primary geotechnical concern at the project site is the presence of moderately to very highly-expansive near-surface soil. Therefore, foundations and retaining walls should be designed and constructed to mitigate the effect of the expansive surficial soil. The effects of expansive soil can be mitigated by moisture-conditioning the expansive soil, providing select-, non-expansive fill or lime-treated soil below interior and exterior slabs and behind retaining walls, and either supporting foundations below the zone of severe moisture change or providing a stiff, shallow foundation that can limit deformation of the superstructure as the underlying soil shrinks and swells. The Geotechnical Investigation recommends that the proposed buildings be supported on individual spread footings at interior column locations and continuous deepened perimeter footings, resulting in an estimated differential settlement of 0.5 or less over a 30-foot horizontal distance, which is generally acceptable to the project structural engineer. The new light poles should be supported on drilled pier foundations. Implementation of Geotechnical recommendations for foundations design and potential ground improvement, as required by Mitigation Measure GEO-1, would ensure that potential impacts related to expansive soil would be less than significant.

[30] Natural Resources Conservation Service, 2017. *Web Soil Survey*. Website: websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed September 4).

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? ***(Less Than Significant Impact)***

The proposed project would connect to the City's wastewater conveyance system. On-site treatment and disposal of wastewater is not proposed for the project; therefore, the proposed project would have no impacts associated with soils incapable of supporting alternative wastewater disposal systems.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***(Less Than Significant with Mitigation)***

Geologic mapping by Dibblee[31] indicates the project site contains Surficial Sediments across the center of the project area and the Orinda Formation in the northern and southern parts of the project area. However, the geotechnical report prepared for this project noted that the entire project area contains Holocene Alluvium, i.e., Surficial Sediments as mapped by Dibblee, 2005.[32] The geotechnical report prepared for the also project discussed the presence of "a variable amount" of Artificial Fill at the surface within the project area.

Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The geotechnical report for this project provided no thickness for the Artificial Fill within the project area, and the borings conducted for that report do not identify any Artificial Fill. Therefore, it is inferred that any Artificial Fill present within the project area forms a very thin layer at the surface. Artificial Fill may contain fossils; however, those fossils have been removed from their original location and are thus out of stratigraphic context.

The Surficial Sediments are Holocene in age (less than 11,700 years ago) in age and consist of gravel, sand, and clay. Although Holocene deposits can contain remains of plants and animals, only those from the middle to early Holocene (4,200 to 11,700 years ago) are considered scientifically important.[33] Therefore, with few known macrofossils and potentially ubiquitous microfossils, the Surficial Sediments on the project site are considered to have low paleontological sensitivity.

No paleontological resources or unique geologic features are known to exist within the project site. Ground disturbance associated with this project is expected to extend to depths of 10 feet into deposits with low paleontological sensitivity. Implementation of Mitigation Measure GEO-2 would mitigate direct or indirect impacts to unique paleontological resources or unique geologic feature by allowing such features to be evaluated and curated for their scientific value. Therefore, this impact would be less than significant.

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31 Dibblee, T.W., Jr. 2005. Geologic map of the Richmond quadrangle, Alameda and Contra Costa Counties, California. Dibblee Geological Foundation, Dibblee Foundation Map DF-147, scale 1:24,000

32 Rockridge Geotechnical, 2017. op. cit.

33 Society of Vertebrate Paleontology, 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee. pp. 1–11.

GEO-2: If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist shall be contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field and addressed appropriately by the paleontologist. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant paleontological resources are collected, a report of findings shall be prepared to document the collection.

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Impact Analysis

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur Hexafluoride (SF_6).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular

GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ***(Less Than Significant Impact)***

This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change. The BAAQMD has not addressed emission thresholds for construction in their CEQA Guidelines; however, the BAAQMD encourages quantification and disclosure. Thus, construction emissions are discussed in this section.

Construction Activities. Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that construction of the proposed project would generate approximately 619.7 metric tons of CO_2e. Implementation of Compliance Measure AIR-1 would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. As noted above, there is no threshold for determining whether construction emissions would make a cumulatively considerable contribution to cumulative climate change impacts, but even if construction emissions were annualized over the life of the project and added to operational emissions, the project's emissions would remain below the BAAQMD's bright-line GHG threshold.

Operational Activities. Long-term operation of the proposed project would generate GHG emissions from area and mobile sources, as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with trips to the proposed project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site, and other sources.

Following guidance from the BAAQMD, GHG emissions were estimated using CalEEMod. Table 4 shows the calculated GHG emissions for the proposed project. Motor vehicle emissions are the largest source of GHG emissions for the project at approximately 83 percent of the total. Solid waste is the next largest category at 11 percent. Water and energy are about 4 percent and 2 percent of the total emissions respectively. Additional calculation details are included in Appendix A.

Table 4: GHG Emissions (Metric Tons Per Year)

Emissions Source	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Area Source Emissions	0.0	0.0	0.0	0.0	0
Energy Source Emissions	3.3	0.0	0.0	3.3	2
Mobile Source Emissions	160.8	0.0	0.0	161.0	83
Waste Source Emissions	8.7	0.5	0.0	21.6	11
Water Source Emissions	7.7	0.0	0.0	8.2	4
Total Annual Emissions				**194.2**	**100**
BAAQMD Threshold				**1,100**	-
Exceed?				**No**	**-**

Source: LSA (October 2018).

According to the BAAQMD, a project would result in a less than significant GHG impact if it would:

- Result in operational-related greenhouse gas emissions of less than 1,100 metric tons of CO_2e a year; or

- Result in operational-related greenhouse gas emissions of less than 4.6 metric tons of CO_2e per service population (residents plus employees).

Based on the results of the construction and operation analysis, the project would not generate GHG emissions that would have a significant effect on the environment. The proposed project would generate 194.2 metric tons of CO_2e, which would be below the BAAQMD's numeric threshold of 1,100 metric tons CO_2e. Operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment and would have a less than significant impact related to operational GHG emissions.

*b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? **(Less Than Significant Impact)***

The City of Richmond Climate Action Plan (CAP),[34] adopted in October 2016, addresses environmental, social and economic issues related to climate change. The CAP builds on the goals and policies in the City's General Plan and the Health in All Policies Strategy (HiAP) to further the City's efforts to build health equity through the reduction of local GHG emissions, and to ensure that the community is well prepared for the impacts of climate change. The CAP also provides an inventory of the City's emissions, establishes an emissions reduction target, and identifies feasible City and community actions that cost-effectively reduce GHG emissions and improve community health across all sectors. The CAP provides objectives and strategies related to Energy Efficient Buildings and Facilities, Increase Use and Generation of Renewable Energy, Sustainable Transportation and Land Use, Zero Waste, Water Conservation, Green Infrastructure, Urban

[34] Richmond, City of. 2016b. *City of Richmond Climate Action Plan*. October.

Forestry and Local Agriculture, Green Business and Industry, and Resiliency to Climate Change. The following strategies are applicable to the proposed project.

- Strategy EE3: Promote Green Building. All new buildings meet or exceed Title 24 standards at time of construction; by 2020 all new residential buildings will be zero-net energy (ZNE); by 2030 all new commercial buildings will be ZNE.

- Strategy TL2: Complete Streets. The City will design its streets so that they enable safe access to goods and services for all pedestrians, bicyclists, motorists, and transit users. Complete streets in dense urban areas will encourage people to walk, bicycle, or take transit rather than drive.

- Strategy TL3: Improve Bicycle and Pedestrian Infrastructure. The City will maintain and accelerate implementation of Richmond's Bicycle and Pedestrian Master Plans, and provide additional actions that support pedestrian and bicyclist safety and comfort, expand the bicycle and pedestrian network, and increase amenities throughout the City.

- Strategy TL5: Expand Public Transit Options and Improve Multi-Modal Network Connectivity. The City will improve the efficiency of public transit services by coordinating transit schedules and ensuring all parts of Richmond are provided access to transit options. The City may also improve amenities at existing transit stops and stations to improve rider comfort and safety.

- Strategy TL6: Expand Car Sharing, Bike Sharing and Ride Sharing, The City will expand existing and promote new car sharing, bike sharing, and ride sharing programs within Richmond and the Bay Area.

- Strategy TL8: Outreach and Education to Support Public Transit and Active Transportation. The City will partner with local agencies, schools, and community groups to engage students, residents, and businesses in confronting the climate change challenge. Together, we will continue to identify and implement opportunities for school and community improvements related to active transportation (i.e., walking and biking) and public transportation.

- Strategy WA3: Green Building Strategies for Water Conservation. The City will employ a variety of strategies to reduce water use via green building techniques, such as ensuring that all projects demonstrate compliance with, at minimum, the 2013 CALGreen standards; offering incentives for certification through GreenPoint Rated, LEED, or other green building rating systems; considering adopting a retrofit-on sale ordinance in conjunction with a Building Energy Saving Ordinance (BESO); and providing information to developers, homeowners, and businesses on water efficiency and green building rating systems.

The proposed project would be consistent with these strategies as all buildings would be required to comply with the latest CALGreen Building Code standards. In addition, the school would use a shuttle van as the primary means of transporting students between the main campus on Lakeside Drive and the sports complex. Pedestrian access would be provided from Hilltop Drive to the sports complex via a pedestrian pathway, should staff, students, or community members choose to walk to the facility. Student-athletes who currently receive car rides from the school to the current off-site locations for practices or games/meets would be able to take the shuttle or walk from the main

campus to the sports complex, potentially resulting in a modest reduction in overall vehicle trips on the street network on practice days and game/meet days. The proposed project would also provide bike racks on-site. Therefore, the proposed project would not conflict with the City of Richmond CAP. In addition, the proposed project would not result in a substantial increase in GHG emissions and would not generate emissions that would exceed the project-level significance criteria established by the BAAQMD. The project would be subject to all applicable permit and planning requirements in place or adopted by the City. Therefore, the proposed project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site 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?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 Impact Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ***(Less Than Significant Impact)***

Small quantities of commercially-available hazardous materials (e.g., paint, cleaning supplies, pool chemicals) would be routinely used at the project site and at the new sports facility during operation. However, the project applicant would be required to comply with existing government regulations[35] in its use and disposal of these materials, and such materials would not be used in sufficient strength or quantity to create a substantial risk to human or environmental health. Therefore, the proposed project would have a less than significant impact related to the routine transport, use, or disposal of hazardous materials.

[35] The United States Environmental Protection Agency regulates "small-quantity generators" (SQGs) of hazardous wastes, which are defined as facilities that generate more than 100 kg (approximately 220 lbs), but less than 1,000 kg (2,200 lbs), of hazardous waste per month.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ***(Less Than Significant Impact)***

As described above, small quantities of common hazardous materials would be used at the project site during construction and operation of the proposed project. Improper use, storage, or handling could result in a release of hazardous materials into the environment, which could pose a risk to construction workers and the public. However, the project applicant would be required to comply with existing government regulations in its use and disposal of these materials, and such materials would not be used in sufficient strength or quantity to create a substantial risk to human or environmental health.

A Phase I Environmental Site Assessment (Phase I ESA) was prepared for the project site by PES Environmental, Inc. in October 2016.[36] The project site was within the former limits of the San Pablo Tank Farm, which operated from the early 1900s until approximately 1970. Research also indicates that the project site was a part of a mass grading and remediation project performed by Chevron in the late 1980s and early 1990s as a part of the Hilltop West project.

The Phase I ESA identified one recognized environmental condition for the project site. While extensive grading and relocation of hydrocarbon-affected soil has occurred in the past, there is a potential that isolated hydrocarbon-affected soil may be encountered during future redevelopment of the subject property.

A Phase II Investigation Report (Phase II) was prepared for the project site by PES Environmental, Inc. in September 2016.[37] The Phase II was conducted to obtain subsurface information to further investigate current site conditions. The Phase II concluded that the presence of residual hydrocarbons and volatile organic compounds (VOCs) in soil and in groundwater beneath the site may be encountered during site grading and utility installation activities. Additionally, ethylbenzene, a VOC, was encountered above its residential screening criteria.

The proposed project would include preparation and implementation of a Soils Management Plan (SMP). All grading activities and management of soils that may be extracted and removed from the project site would be managed in accordance to the SMP. Additionally, engineering measures to inhibit intrusion of any residual contaminated soil vapors (i.e., ethylbenzene) into the field houses would be incorporated in the design and construction of those structures. Therefore, the Regional Water Board has determined that any contaminated soils that may still be present beneath the property would not have an adverse effect on the proposed project.[38]

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36 PES Environmental, Inc., 2016b. *Phase I Environmental Site Assessment, 2600 Hilltop Drive, Richmond, California*. October 12.

37 PES Environmental, Inc., 2016a. op. cit.

38 San Francisco Bay Regional Water Quality Control Board, 2016. *Response to Proposed Development Plans at 2600 Hilltop Drive at the Former Hilltop West Property, Richmond, Contra Costa County.* April 27.

Additionally, a Pipeline Hazard Analysis[39] was prepared for the proposed project, which is included as Appendix C. Five hazardous pipelines were identified within 1,500 feet of the project site, including three high-pressure natural gas pipelines and two liquid petroleum product pipelines. The Pipeline Hazard Analysis concluded that the project site has the potential to be affected in the event of "worse-case" full rupture of a nearby high-pressure natural gas or liquid petroleum product pipeline. The closest pipelines pass within approximately 8 to 18 feet of the northwestern edge of the project site. The likelihood of a hazard scenario affecting the project site due to a release from a nearby pipeline is, however, extremely low, ranging in probability from approximately once every 9,000 years to once every 3,400,000 years. The project would not alter the likelihood of pipeline rupture.

The operators of the individual pipelines within the vicinity of the project site (Chevron, Pacific Gas & Electric, Kinder-Morgan) operate and maintain the subject pipelines in accordance with State and federal regulations that are designed to safeguard health, property and public welfare. Risk reduction and risk management measures are incorporated into the standard pipeline operating procedures to reduce the probability of occurrence of an event that could result in a pipeline incident and to mitigate the consequences that could result if a pipeline release were to occur. The proposed project would implement the recommendations of the Pipeline Hazard Analysis, including an agreement for safety notifications from Chevron, additional setback from the pipeline easement, and consideration of the pipelines in any emergency planning documents for the project site.

Therefore, for the reasons stated above, the proposed project would have a less than significant impact related to the potential release of, or exposure to, hazardous materials as a result of a foreseeable accident.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ***(Less Than Significant Impact)***

The project is not located within ¼ mile of a school other than the school it is designed to serve. Refer to Section 3.9.1.a and 3.9.1.b for a discussion of hazardous materials handled by the project; the project would not emit significant amounts of hazardous emissions (see Section 3.3). The project applicant would be required to comply with all applicable local, State, and federal regulations and standards related to hazardous emissions and materials. As noted above, compliance with all applicable regulations would reduce any significant hazards to the public or the environment related to hazardous materials, and the proposed project would have a less than significant impact.

d. Would the project 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? ***(Less Than Significant Impact)***

The project site is within the Hilltop West case area, which includes an area of approximately 310 acres on the western portion of the former San Pablo Tank Farm. The case for this facility is listed as

[39] J House Environmental, Inc., 2015. *Pipeline Hazard Analysis, Making Waves Academy and Foundation, 2600 Hilltop Drive Project Site, Richmond, California.* December.

an open cleanup site on the Regional Water Board's GeoTracker website. Two repositories were constructed along the western boundary of the project site to permanently contain petroleum hydrocarbon-contaminated soil. The most recent inspection reports available indicate that the repositories in closest proximity to the project site were secure.[40] The project would not disturb these soil repositories.

Several additional properties in the vicinity of the project site are listed on hazardous materials and/or storage databases. In general, these surrounding properties are not expected to present a significant environmental concern to the project site based on one or more of the following: 1) the listed property has received case closure by the appropriate regulatory agency; 2) the listed property is either cross-gradient or down-gradient of the project site with respect to the inferred groundwater flow direction; 3) the listed property is a soils-only case; and 4) the listed property is located at too great a distance to represent a significant environmental condition with respect to the project site.

Therefore, for the reasons listed above, the proposed project would not create a significant hazard to the public or the environment as a result of being located on a list of hazardous materials site compiled pursuant to Government Code Section 65962.5.

e. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? ***(No Impact)***

As noted in Section 3.13.1.c, the project site is not located within an airport land use plan, or within two miles of a public airport or public use airport. Therefore, the proposed project would have no impact related to airport safety hazards or noise for people residing or working within the project site.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***(Less Than Significant Impact)***

The proposed project would not result in any alterations of existing roadways or add significant amounts of traffic to existing roadways. Therefore, the proposed project would not interfere with any emergency evacuation routes within Contra Costa County or an adopted emergency response plan, and this impact would be less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? ***(No Impact)***

The project site is located in an urban area and is not located within a very high fire hazard severity zone.[41] Therefore, the proposed project would not expose people or structures to a significant loss, injury, or death involving wildland fires and there would be no impact.

40 PES Environmental, Inc., 2016b. op. cit.

41 Cal Fire, 2009. *Contra Costa County Very High Fire Hazard Severity Zones in LRA*. January 7.

3.10 HYDROLOGY AND WATER QUALITY

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

3.10.1 Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? ***(Less Than Significant With Mitigation)***

The State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards regulate water quality of surface water and groundwater bodies throughout California. In the Bay Area, including the project site, the Water Board is responsible for implementation of the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses for waterways and water bodies within the region.

Runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the federal Clean Water Act). The NPDES program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES Program is administered by the Water Board.

Construction Activities. According to the water quality control plans of the Water Board, any construction activities, including grading, that would result in the disturbance of 1 acre or more would require compliance with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (Construction General Permit).[42] The project site is approximately 13 acres and as such, would be required to comply with the Construction General Permit. On-site construction activities subject to the General Permit include clearing, grading, excavation, and soil stockpiling. The General Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. A SWPPP identifies all potential pollutants and their sources, including erosion, sediments, and construction materials and must include a list of Best Management Practices (BMPs) to reduce the discharge of construction-related stormwater pollutants. A SWPPP must include a detailed description of controls to reduce pollutants and outline maintenance and inspection procedures. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits and perimeter controls to avoid tracking sediment off-site onto adjacent roadways. A SWPPP also defines proper building material staging and storage areas, paint and concrete washout areas, describes proper equipment/vehicle fueling and maintenance practices, measures to control equipment/vehicle washing and allowable non-stormwater discharges, and includes a spill prevention and response plan.

In addition, Chapter 12.22 of the City of Richmond Municipal Code contains requirements for stormwater management and discharge control. Chapter 12.22.09 of the City of Richmond Municipal Code outlines best management practices and standards that are required for construction activities and facilities that may contribute pollutants to stormwater. Chapter 12.22.09 of the City of Richmond Municipal Code requires all construction to conform to the following:

- The California Stormwater Quality Association (CASQA) Stormwater BMP Handbooks for Construction Activities and New Development and Redevelopment;
- The Association of Bay Area Governments (ABAG) Manual of Standards for Erosion and Sediment Control Measures; and
- The City's grading and erosion control ordinance and other generally accepted engineering practices for erosion control as required by the City Manager.

Construction activities associated with the proposed project would cause disturbance of soil during excavation work, which could adversely impact water quality. Contaminants from construction vehicles and equipment and sediment from soil erosion could increase the pollutant load in runoff being transported to receiving waters during development. Runoff from the proposed landscaped areas may contain residual pesticides and nutrients (associated with landscaping) and sediment and trace metals (associated with atmospheric deposition) during operation of the project.

Operation Activities. The proposed project would be subject to the Regional Water Board Municipal Regional Permit (MRP) implemented in November 2015 by Order R2-2015-0049. Provision C.3 of the

[42] State Water Resources Control Board, 2009. Division of Water Quality. *Construction General Permit Fact Sheet*. 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ

MRP requires new development and redevelopment projects that would replace more than 10,000 square feet of existing impervious surfaces to include post-construction stormwater control in project designs. Under the C.3 requirements, the preparation and submittal of a Stormwater Control Plan (SCP) would be required for the project site. The purpose of an SCP is to detail the design elements and implementation measures necessary to meet the post-construction stormwater control requirements of the MRP. In particular, SCPs must include Low Impact Development (LID) design measures, which reduce water quality impacts by preserving and recreating natural landscape features, minimizing imperviousness, and using stormwater as a resource, rather than a waste product. The proposed project would also be required to prepare a Stormwater Facility Operation and Maintenance Plan to ensure that stormwater control measures are inspected, maintained, and funded for the life of the project.

As the site is currently largely undeveloped, the proposed project would increase the total amount of impervious surface on the project site. The increase in impervious surface could result in increased stormwater runoff (both flow rate and volume) from the project site relative to pre-project conditions, which may result in hydromodification impacts (i.e., increased potential for erosion of creek beds and banks, silt pollution generation, or other adverse impacts on beneficial uses due to increased erosive force).

Operation of the proposed project could incrementally contribute to the long-term degradation of runoff water quality and as a result, adversely affect water quality in the receiving waters and San Francisco Bay. The proposed project would be considered a "regulated project" under the MRP, indicating that the State Water Board has determined the size and nature of the project has the potential to discharge a significant pollutant load to stormwater runoff and receiving waters. Therefore, the potential discharges associated with the proposed project are considered to be a potentially significant impact. For this reason, the NPDES permit requires the project to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP).

Implementation of the following two mitigation measures would ensure that the proposed project complies with the Regional Water Board's water quality standards by reducing the potential construction- and operation-period impacts to water quality to a less than significant level.

HYD-1: Prior to construction, the project applicant shall prepare a Stormwater Pollution Prevention Plan (SWPPP), meeting Construction General Permit requirements (State Water Resources Control Board Order No. 2009-000–DWQ, as amended) designed to reduce potential adverse impacts to surface water quality through the project construction period. The SWPPP shall be submitted to the City for review and approval prior to the issuance of any permits for ground disturbing activities.

The SWPPP shall be prepared by a Qualified SWPPP Developer in accordance with the requirements of the Construction General Permit. These include: Best Management Practices (BMPs) for erosion and sediment control, site management/ housekeeping/waste management, management of non-stormwater discharges, run-on and runoff controls, and BMP inspection/maintenance/repair activities. BMP implementation shall be consistent with the BMP requirements in the most recent

version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction.

The SWPPP shall include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations, and as appropriate (depending on the Risk Level), sampling of the site effluent and receiving waters. A Qualified SWPPP Practitioner shall be responsible for implementing the BMPs at the site and performing all required monitoring and inspection/maintenance/repair activities. The Project applicant shall implement the SWPPP during construction.

HYD-2: The project applicant shall fully comply with San Francisco Bay Regional Water Quality Control Board stormwater permit requirements, including Provision C.3 of the Municipal Regional Permit. The project applicant shall prepare and implement a Stormwater Control Plan (SCP) for the project. The SCP shall be submitted to the City for review and approval prior to the issuance of any permits for ground disturbing activities. The SCP would act as the overall program document designed to provide measures to mitigate potential water quality impacts associated with the operation of the proposed project. At a minimum, the SCP for the project shall include:

- An inventory and accounting of existing and proposed impervious areas.
- Low Impact Development (LID) design details incorporated into the project. Specific LID design may include, but is not limited to: using pervious pavements and green roofs, dispersing runoff to landscaped areas, and/or routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout the site.
- Measures to address potential stormwater contaminants. These may include measures to cover or control potential sources of stormwater pollutants at the project site.
- A Draft Stormwater Facility Operation and Maintenance Plan for the project site, which will include periodic inspection and maintenance of the storm drainage system. Persons responsible for performing and funding the requirements of this plan shall be identified. This plan must be finalized prior to issuance of building permits for the project.

Operation of the proposed project would not result in any substantial changes to surface or groundwater water quality with implementation of HYD-1 and HYD-2, and with these mitigation measures the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, resulting in a less than significant impact.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? ***(Less Than Significant Impact)***

Although the proposed project would result in a net increase in impervious surface coverage of approximately 13 acres compared to the existing condition, the proposed project would include the use of LID features that would retain and clean stormwater onsite, and encourage percolation into the underlying soil to support groundwater recharge, before discharging excess stormwater into the municipal stormwater system, consistent with Provision C.3 of the MRP.

The proposed project would connect to the existing water lines within the vicinity of the project site and would not require the use of groundwater. Due to the depth of groundwater, dewatering of excavations is not anticipated during construction activities. The potential for the proposed project to substantially deplete groundwater supplies is less than significant.

Therefore, with the LID features, the Project would not substantially decrease groundwater supplies or interfere with groundwater recharge, and the Project would have a less than significant impact on the sustainable management of the groundwater basin.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site; ***(Less Than Significant Impact)***

The proposed project would not result in the alteration of the course of a stream or river. The project site is located in an urban area surrounded by development and would not substantially alter the existing drainage patterns in a manner that would result in substantial erosion or siltation on- or off-site. As noted above, the Project would reduce the pervious areas on site, but would use LID features to slow runoff and prevent substantial erosion and siltation on and offsite from stormwater during operations. Furthermore, compliance with construction- and operation-period stormwater requirements (Mitigation Measures HYD-1 and HYD-2) would further ensure that development of the proposed project would not result in substantial erosion or siltation on- or off-site. Therefore, the proposed project would have a less than significant impact related to existing drainage patterns.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; ***(Less Than Significant Impact)***

Refer to Section 3.10.1.c.i. The project's compliance with its SWPPP during construction and incorporation of LID features during operation would reduce the rate and amount of surface runoff. The proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or ***(Less Than Significant Impact)***

Refer to Section 3.10.1.a and 3.10.1.c.i. The proposed project would not create or contribute runoff that would exceed the existing or planned stormwater drainage systems. The proposed project would include LID features, such as bio-retention areas to provide to slow and retain stormwater runoff. As described above, the proposed project would create additional sources of polluted runoff; however, implementation of Mitigation Measures HYD-1 and HYD-2 would ensure that potential impacts are reduced to less than significant levels.

iv. Impede or redirect flood flows? ***(No Impact)***

The project site is not located within a mapped dam failure inundation area[43] or within a 100-year flood hazard area.[44] Therefore, the proposed project would not alter the existing drainage pattern of the site or area, in a manner which would impede or redirect flood flows.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? ***(No Impact)***

The Project does not involve the use of substantial pollutants. In addition, as discussed above, the Project is not in a flood hazard zone. Elevations at the Project site range from approximately 160 to 210 feet above sea level. The Project site is not located within a mapped tsunami inundation area for Richmond,[45] and no seismically induced seiche waves have ever been documented in the San Francisco Bay.[46] Therefore, the Project would not be exposed to inundation by seiche, tsunami, or floods.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? ***(Less Than Significant Impact)***

As discussed above, due to the size of the proposed project, construction and operation of the project would be subject to State and regional requirements related to stormwater runoff. Required compliance with State and local regulations regarding stormwater control during construction would ensure that the proposed project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan. As a result, a less-than-significant impact would occur.

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43 California Department of Water Resources, 2018. Inundation Maps. Website: https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/Inundation-Maps (accessed October 2, 2018).

44 Federal Emergency Management Agency, 2009. Op. cit.

45 California, State of, 2009. California Emergency Management Agency. *Tsunami Inundation Map for Emergency Planning, Richmond Quadrangle/San Quentin Quadrangle.* July 31.

46 Association of Bay Area Governments and Metropolitan Transportation Commission, 2017. Plan Bay Area 2040 Final Environmental Impact Report. July 16.

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☒	☐
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Impact Analysis

a. Would the project physically divide an established community? ***(Less Than Significant Impact)***

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. For instance, the construction of an interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside of the community.

The project area is located in an urban area and is surrounded by light industrial, residential, recreational and educational uses. The proposed project would result in the construction of a new sports facility to support the existing Making Waves Academy campus. Access to the project site would be via an existing road/driveway. The proposed project would not result in the realignment or closure of any existing roads or otherwise create barriers to existing paths of travel that connect different parts of the city. The proposed project would construct internal site circulation connecting the project site to the existing sidewalks along Hilltop Drive and the greater pedestrian network in the vicinity of the project site, thereby improving the site's pedestrian connection to other parts of the city. Therefore, the proposed project would not result in the physical division of an established community or adversely affect the continuity of land uses in the vicinity, and this impact would be less than significant.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? ***(Less Than Significant Impact)***

Following is an evaluation of the proposed project's consistency with the applicable goals and policies of the General Plan and Zoning Ordinance. In reviewing this section, it is important to understand that the determination of whether a project is consistent with a specific policy can be subjective, and that consistency determinations are best made with a broad understanding of the often-competing policy objectives in a planning document. As a result, policy consistency determinations are ultimately made by the local decision-making body. As previously discussed, the City is the lead agency for environmental review. Therefore, the City Council would determine the proposed project's consistency with the City's applicable plans and policies. The analysis in this

chapter is intended to provide decision-makers with a list of the goals and policies that are pertinent to the proposed project and the project site, and a recommendation regarding whether or not the proposed project would directly conflict with relevant planning directives. These recommendations are intended to supplement decision-makers' own understanding of the various policy considerations. A conflict with an applicable policy is not itself a significant impact unless it results in a significant environmental impact, as described below.

Per CEQA Guidelines, policy conflicts do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. As such, associated physical environmental impacts are discussed in this Initial Study under specific topical sections.

The project site is designated as Business/Light Industrial on the City's General Plan Land Use Map and is within the IL zoning district on the City's Zoning Map. The Project proposes to re-designate and rezone the Project site to PCI.

General Plan. As described in Chapter 2.0, Project Description, the City's General Plan Land Use Diagram designates the project site as Business/Light Industrial. The Business/Light Industrial designation includes commercial and institutional uses such as large-scale research and development campus, light industrial, industrially-related storage and distribution and office uses, with a maximum allowable FAR of 3.0 and maximum heights of up to 55 feet.

The proposed project proposes to re-designate the Project site to PCI, which supports public, semi-public and educational uses such as civic facilities, community centers, libraries, museums, national park facilities, hospitals and schools. The Project, as a school accessory facility, would fit with the PCI designation. The PCI designation permits development at intensities of up to 1.0 FAR and heights up to 45 feet. The Project would be within the permitted FAR and height limit.

Consistent with Section 15.04.813 of the City's Municipal Code, an application for an amendment to the City's General Plan and/or the General Plan Map must be considered by the City Council with a recommendation from the Planning Commission. In considering the General Plan amendment request, the City of Richmond Planning Commission and the City of Richmond City Council must make the following findings to approve or conditionally approve an amendment: A) the proposed amendment will contribute to the public health, safety, and general welfare or will be of benefit to the public; B) the proposed amendment is consistent with the General Plan goals, unless the goals themselves are proposed to be amended; C) the proposed amendment retains the internal consistency of the General Plan and is consistent with other adopted plans, unless a concurrent amendment to those plans is also proposed and will result in consistency; and D) the proposed amendment has been reviewed in compliance with the requirements of the California Environmental Quality Act.

The proposed project would involve the development of a new sports facility on the project site primarily to serve the nearby Making Waves campus. As a part of the proposed project, the project applicant would implement a program that allows the sports facility to be used by public groups and individuals at certain times. Groups would use the facility through a use agreement. The proposed

project would redevelop an existing undeveloped site with a mix of recreational facilities that would serve community needs and provide opportunities for increased physical activity and social interaction. The proposed project would be compatible with the mix and intensity of uses located within the vicinity of the site, which generally consist of residential, industrial, and open space uses.

Zoning Ordinance. The project site is located within the IL (Light Industrial) zoning district, which is intended to accommodate a diverse range of light industrial uses, including general service, research and development, warehousing, and service commercial uses. It includes industrial complexes, flex space, and industrial buildings for single or multiple users, warehouses, mini-storage, wholesale, commercial recreation, and other related uses. Small-scale retail and ancillary office uses are also permitted.

The proposed project would not be considered an allowable use under the existing IL zoning district as the proposed project would be an accessory use to the nearby Making Waves School. As part of the proposed project, the project applicant is requesting a rezone of the project site to PCI, which conditionally permits school accessory uses. Therefore, the proposed project would require a Rezoning, as well as, a Conditional Use Permit.

Consistent with Section 15.04.814 of the City's Municipal Code, an application for an amendment to the City's Zoning Ordinance and/or the Zoning Maps must be considered by the City Council with a recommendation from the Planning Commission. In considering the rezoning request, the City of Richmond Planning Commission and the City of Richmond City Council must make the following findings: A) the proposed rezoning is consistent with the General Plan; B) the proposed rezoning is necessary for public health, safety, and general welfare or will be of benefit to the public; C) the proposed rezoning has been reviewed in compliance with the requirements of CEQA; and D) that the project site is suitable for the uses permitted in the proposed zone in terms of access, size of parcel, relationship to similar or related uses, and other relevant considerations, and that the proposed change of zoning district is not detrimental to the use of adjacent properties.

With the proposed change in zoning and the CUP, the proposed Project would be consistent with the City's Zoning Ordinance, including permitted development intensity, setbacks, parking, and other development regulations.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 Impact Analysis

a. Would the project 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? ***(No Impact)***

The Project site does not contain any known mineral resources. Mining operations within the City are limited to one quarry at Point Molate, which is focused on recycling and handling operations rather than extraction.[47] The Point Molate quarry is located approximately 4 miles southwest of the project site. The proposed project would not result in the loss of availability of a known mineral resource of value to the region or residents of the State. Therefore, the proposed project would have no impact.

b. Would the project 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? ***(No Impact)***

Refer to Section 3.12.1.a. The proposed project site does not contain any locally-important mineral resource recovery sites delineated in the General Plan or any other applicable plan. Therefore, the proposed project would have no impact.

[47] Richmond, City of, 2012b. *Richmond General Plan 2030.* April 25.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
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?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒

3.13.1 Impact Analysis

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within one dBA of each other and are normally

exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

A project would have a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, as appropriate, the City of Richmond.

The City of Richmond addresses noise in the Noise Element of the General Plan[48] and in the Municipal Code.[49] The Noise Element of the General Plan provides the City's goals and policies related to noise, including the land use compatibility guidelines for community exterior noise environments. The Noise Element also sets noise exposure land use compatibility standards, as shown in Table 5 below.

The Municipal Code (Noise Ordinance) outlines the City's standards for and limitations on noise sources within the City. The City limits construction activities to 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 if they would result in a noise disturbance across a residential real property line. The noise ordinance further stipulates that, where construction activities on a construction project which is adjacent to any noise sensitive use are anticipated to last for a year or more, temporary noise barriers shall be constructed that break the line of sight between the noise-sensitive land use and the construction project. The noise ordinance prohibits the use of pile drivers or other impulsive noise sources on Sundays and holidays, except for emergencies or as approved in advance by the Building Official. Furthermore, where technically and economically feasible, project operations as well as temporary construction activities should be conducted in such a manner so as to not exceed 60 dBA L_{eq} for more than 30 minutes in any hour as measured at the nearest single-family residential property line, or exceed 65 dBA L_{eq} for more than 30 minutes in any hour as measured at the nearest multi-family residential property line.

Certain land uses are considered more sensitive to noise than others. Examples of these land uses include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The project site is surrounded by a mix of uses within an urban area of the City. Surrounding land uses include the San Marcos Apartments located across Hilltop Drive to the north; the Village Condominium complex located across San Pablo Avenue to the east, and the Country Club Vista Park located across Richmond Parkway to the west. The closest residences include the San Marcos Apartments, located approximately 135 feet from the project site and the single family residences along Richmond Parkway, located approximately 180 feet from the project site.

48 Richmond, City of, 2012b. op. cit.

49 Richmond, City of, 2012c. *Richmond Code of Ordinances, Chapter 9.52*.

Table 5: Noise Exposure Land Use Compatibility Standards

Land use Category	Community Noise Exposure – L_{dn} or CNEL, dB						
	55	60	65	70	75	80	85
Residential – Low Density Single Family, Duplex, Mobile Homes							
Residential – Multi-family							
Transient Lodging – Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing Utilities, Agriculture							

Source: City of Richmond, 2012.

Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional constructions, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development should generally not be undertaken.

To assess existing noise levels, LSA conducted noise monitoring to establish the existing ambient noise environment at the project site. Four short-term (15-minute) and one long-term (24-hour) noise measurements were conducted at the project site from September 24, 2018 to September 25, 2018. Noise measurement data collected during the noise monitoring area is summarized in Table 6. As shown in Table 6, the short-term noise measurements indicate that ambient noise in the project

Existing short-term noise in the site vicinity ranges from approximately 62.8 dBA to 68.5 dBA L_{eq}. The long-term measurement resulted in a daily noise level of 72.1 dBA L_{dn}. Vehicle traffic on Hilltop Drive, Richmond Parkway, and San Pablo Avenue was reported as the primary noise source. The meteorological data conditions at the time of the noise monitoring are shown in Table 7. Noise measurement sheets are provided in Appendix D.

Table 6: Short-Term Ambient Noise Monitoring Results, dBA

Location Number	Location Description	Start Time	L_{eq} [a]	L_{max} [b]	L_{min} [c]	Primary Noise Sources
ST-1	On pathway in front of multifamily residences on Hilltop Drive across from project site, approximately 200 feet east of intersection of Hilltop Drive and Richmond Parkway.	2:09 p.m.	62.8	74.2	51.9	Vehicle traffic on Hilltop Drive and Richmond Parkway.
ST-2	At park on Richmond Parkway, near single family residences, across from the project site.	2:27 p.m.	68.5	81.9	52.3	Vehicle traffic on Richmond Parkway.
ST-3	On pathway in front of multifamily residences on Hilltop Drive across from project site, approximately 300 feet West of intersection of Hilltop Drive and San Pablo Avenue.	2:53 p.m.	65.5	80.9	52.6	Vehicle traffic on Hilltop Drive and San Pablo Avenue.
ST-4	On San Pablo Avenue, at entrance to San Pablo PG&E Substation.	4:13 p.m.	66.8	82.5	49.0	Vehicle traffic on San Pablo Avenue.
LT-1	Hilltop Drive, west of JOINN Innovation Park entrance at border of project site.	1:54 p.m.	73.9 (72.1 L_{dn})	79.3	45.7	Traffic on Hilltop Drive and Richmond Parkway.

Source: LSA (September 2018).

[a] L_{eq} represents the average of the sound energy occurring over the measurement time period for the short-term noise measurements. L_{dn} is the day/night noise level, which is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.

[b] L_{max} is the highest sound level measured during the measurement time period.

[c] L_{min} is the lowest sound level measured during the measurement time period.

Table 7: Meteorological Conditions During Ambient Noise Monitoring

Location Number	Average Wind Speed (mph)	Maximum Wind Speed (mph)	Temperature (˚F)	Humidity (%)
ST-1	3.2	6.6	75.0	36
ST-2	2.1	6.7	78.6	42
ST-3	1.7	10.9	79.9	51
ST-4	2.1	5.1	69.5	69

Source: LSA (September 2018).

a. Would the project result in 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? ***(Less Than Significant with Mitigation)***

The following section describes how the short-term construction and long-term operational noise impacts of the proposed project would be less than significant.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during grading and site preparation activities. Table 8 lists typical construction equipment noise levels (L_{max}) used for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, obtained from the FHWA Roadway Construction Noise Model. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to the site, which would incrementally increase noise levels on roads leading to the site. As shown in Table 8, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} at 50 feet from passing construction trucks.

The second type of short-term noise impact would be related to noise generated during grading and construction on the project site. Construction would be performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels would vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table 8 lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 87 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, including excavation and grading of the site, tends to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Table 8: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

As noted above, the closest sensitive receptors include the San Marcos Apartments located 135 feet from the project site. At 135 feet, there would be a decrease of approximately 9 dBA from the increased distance compared to the noise level measured at 50 feet from the active construction area. Therefore, the closest sensitive receptor may be subject to short-term maximum construction noise reaching 76 dBA L_{max} during construction. However, construction equipment would operate at various locations within the 13.05-acre project site and would only generate this maximum noise level when operations occur closest to the receptor. Construction noise is permitted by the City of Richmond when activities occur 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.

In addition, the noise ordinance stipulates that, where construction activities on a construction project which is adjacent to any noise sensitive use are anticipated to last for a year or more, temporary noise barriers shall be constructed to break the line of sight between the noise-sensitive land use and the construction project. Construction of the proposed project would last approximately 10 months; therefore this measure would not be required.

The noise ordinance also prohibits the use of pile drivers or other impulsive noise sources on Sundays and holidays, except for emergencies or as approved in advance by the Building Official. The project would not require the use of pile drivers; therefore this measure would not be required.

Furthermore, where technically and economically feasible, project operations as well as temporary construction activities should be conducted in such a manner so as to not exceed 60 dBA L_{eq} for more than 30 minutes in any hour as measured at the nearest single-family residential property line, or exceed 65 dBA L_{eq} for more than 30 minutes in any hour as measured at the nearest multi-family residential property line. Therefore, as the San Marcos Apartments may be subject to short-term maximum construction noise reaching 76 dBA L_{max} during construction, implementation of the following mitigation measure for project construction would reduce potential construction period noise impacts for the indicated sensitive receptors to less than significant levels.

NOI-1: The project contractor shall implement the following best management practice measures during construction of the project:

- To minimize construction noise impacts on nearby residents, the project shall limit construction hours between 7:00 a.m. and 7:00 p.m. on non-holiday and weekdays as allowed by the City Municipal Code. Pile driving and similar loud activities shall be limited to 8:00 a.m. to 5:00 p.m. on non-holidays or weekdays. Any work outside of these hours by the construction contractors shall require a special permit from the City Engineer. There should be compelling reasons for permitting construction outside of these designated hours.

- Construction equipment shall be properly muffled and maintained with noise reduction devices to minimize construction-generated noise.

- The project shall prohibit unnecessary idling (more than 5 minutes) of internal combustion engines.

- The contractor shall locate stationary noise sources away from residents, and require the use of acoustic shielding with such equipment when feasible and appropriate.

- Construction haul truck and materials delivery traffic shall avoid residential areas, whenever feasible.

- The construction contractor shall place noise-generating construction equipment and locate construction staging areas away from sensitive uses, whenever feasible.

- The construction contractor shall use on-site electrical sources to power equipment rather than diesel generators, where feasible.

- All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule. A sign legible at a distance of

50 feet shall also be posted at the construction site. All notices and signs shall indicate the dates and durations of construction activities, as well as provide a telephone number for the "noise disturbance coordinator."

Implementation of Mitigation Measure NOI-1 would limit construction hours and require the construction contractor to implement noise-reducing measures during construction, which would reduce short-term construction noise impacts to a less than significant level.

Operational Noise Impacts. The project would generate long-term noise impacts from both traffic and stationary noise sources, as discussed below.

Traffic Noise Impacts. Motor vehicles with their distinctive noise characteristics are the dominant noise source in the project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Implementation of the proposed project would result in new daily trips on local roadways in the project site vicinity. A characteristic of sound is that a doubling of a noise source is required in order to result in a perceptible (3 dBA or greater) increase in the resulting noise level.

As identified in the Hilltop Sports Complex Transportation Review Memorandum,[50] the proposed project would generate approximately 17 PM peak hour trips during a typical weekday and approximately 130 in-bound vehicle trips during peak events. Therefore, to be conservative, this analysis assumes that the proposed project would generate approximately 170 average daily trips on the weekdays and Sundays and approximately 260 average daily trips on Saturdays. The adjacent Hilltop Drive carries approximately 10,110 average daily trips on weekdays without the Project. Project trips would represent a small increase in noise level, approximately 0.1 dBA CNEL based on the following equation:

$$Change\ in\ (dBA) = 10 * \log_{10}\left(\frac{Current\ Volume}{Future\ Volume}\right)$$

Therefore, Project daily trips would not result in a perceptible noise increase (i.e., at least 3 dBA) along any roadway segment in the project vicinity and therefore, would be less than significant.

Stationary Noise Impacts. The proposed project would include a new sports facility, which could result in an increase in ambient noise levels in the vicinity of the project area associated with outdoor play and assembly and parking lot noise. A summary of the stationary source noise impacts is provided in Table 9 below.

Outdoor Sports Facilities. Implementation of the proposed project could result in an increase in ambient noise levels in the vicinity of the project site associated with the Main Field, which would include a soccer field and track and field facility. In addition, the project would utilize a loudspeaker system. Outdoor activity and loudspeaker systems typically generate maximum noise levels of 70 dBA L_{max} at 50 feet.

[50] Kittleson & Associates, 2017. op. cit.

Table 9: Stationary Source Noise Impacts at Nearby Sensitive Receptors

Noise Source	Reference Noise Level	Nearby Sensitive Receptors	Existing Noise Level at Closest Receptor	Resulting Noise Level at Closest Receptor	Significant?
Outdoor Sports Facilities and Loudspeakers	70 dBA L_{max} at 50 feet	Single family residences across Richmond Parkway located approximately 190 feet from the proposed main field	68.5 dBA L_{eq} 81.9 dBA L_{max} 52.3 dBA L_{min}	58 dBA L_{max}	No
Spectators	88 dBA L_{max} at 10 feet	San Marcos Apartments located 225 feet from the proposed bleacher seating near the main field	62.8 dBA L_{eq} 74.2 dBA L_{max} 51.9 dBA L_{min}	61 dBA L_{max}	No
Parking Lot Activity	60 dBA to 70 dBA L_{max} at 50 feet	San Marcos Apartments, located approximately 155 feet from the parking lot near the main field	62.8 dBA L_{eq} 74.2 dBA L_{max} 51.9 dBA L_{min}	50 to 60 dBA L_{max}	No

Source: LSA (October 2018).

The closest sensitive receptors to the outdoor facilities include the single family residences across Richmond Parkway located approximately 180 feet from the proposed main field and the San Marcos Apartments located 240 feet from the proposed main field. This analysis also assumes that loudspeakers would be located at the facilities. At 180 feet, there would be a minimum of 12 dBA reduction in noise levels due to distance from the baseline noise level of 70 dBA L_{max} at 50 feet and at 240 feet, there would be a minimum of 13 dBA reduction in noise levels due to distance from the baseline noise level of 70 dBA L_{max} at 50 feet. Therefore, maximum noise levels generated by the sports facility would be approximately 58 dBA L_{max} at the single-family residences and approximately 57 dBA L_{max} at the San Marcos Apartments. As described above, where technically and economically feasible, project operations should be conducted in such a manner so as to not exceed 60 dBA L_{eq} for more than 30 minutes in any hour as measured at the nearest single-family residential property line, or exceed 65 dBA L_{eq} for more than 30 minutes in any hour as measured at the nearest multi-family residential property line. Therefore, noise levels associated with the sports facilities would be below the City's noise level standards of 60 dBA L_{eq} at the nearest single-family residence and 65 dBA L_{eq} at the nearest multi-family residence.

Spectator Noise. In addition, the proposed project would generate spectator noise, such as cheering and whistling, while games are occurring. Based on reference noise measurements conducted by LSA, noise levels associated with spectator noise while games are occurring is approximately 88 dBA at 10 feet. The closest sensitive receptors to spectator seating include the San Marcos Apartments located 225 feet from the proposed bleacher seating near the main field and the single family residences located 320 feet from the proposed bleacher seating near the main field. At 225 feet, there would be a minimum of 27 dBA reduction in noise levels due to distance from the baseline noise level of 88 dBA L_{max} at 10 feet and at 320 feet, there would be a minimum of 30 dBA reduction in noise levels due to distance

from the baseline noise level of 88 dBA L_{max}. Therefore, maximum noise levels generated by spectators at the San Marcos Apartments would be approximately 61 dBA L_{max} and maximum noise levels generated by spectators at the single-family residences would be approximately 58 dBA L_{max}. As noted above, project operation should not exceed 60 dBA L_{eq} for more than 30 minutes in any hour at the nearest single-family residence or exceed 65 dBA L_{eq} for more than 30 minutes in any hour at the nearest multi-family residence. Therefore, noise levels associated with spectator noise would be below the City's noise level standards of 60 dBA L_{eq} at the nearest single-family residence and 65 dBA L_{eq} at the nearest multi-family residence.

As noted in Table 6, short-term noise measurements (ST-1) determined that noise levels at the San Marcos Apartments are approximately 62.8 dBA L_{eq}, 74.2 dBA L_{max}, and 51.9 dBA L_{min}, with the primary noise source being reported as vehicle traffic on Hilltop Drive and Richmond Parkway. In addition, as noted in Table 6, short-term noise measurements (ST-2) determined that noise levels at the single-family residences are approximately 68.5 dBA L_{eq}, 81.9 dBA L_{max}, and 52.3 dBA L_{min}, with the primary noise source being reported as vehicle traffic on Richmond Parkway. Noise levels associated with the proposed project, including the loudspeaker system and outdoor sports facility areas and spectator noise would not be substantially greater than existing noise sources in the project vicinity and would not perceptibly increase the noise levels. Therefore, the proposed project would not result in substantial increases in noise at noise sensitive land uses due to distance attenuation and this impact would be less than significant.

Parking Lot Noise. Parking lot noise on the site and on nearby streets (including engine sounds, car doors slamming, car alarms, loud music, and people conversing) would occur as a result of the proposed project. Typical parking lot activities, such as people conversing or doors slamming, generates approximately 60 dBA to 70 dBA L_{max} at 50 feet. The closest sensitive receptors to the nearest proposed parking lot are the San Marcos Apartments, located approximately 155 feet from the parking lot near the main field and the single family residences across Richmond Parkway, located approximately 300 feet from the parking lot near the main field. Adjusted for distance, the San Marcos Apartments would be exposed to a noise level of 50 to 60 dBA L_{max} generated by parking lot activities and the single-family residences would be exposed to a noise level of 44 dBA to 54 dBA L_{max}. As noted above, project operation should not exceed 60 dBA L_{eq} for more than 30 minutes in any hour at the nearest single-family residence or exceed 65 dBA L_{eq} for more than 30 minutes in any hour at the nearest multi-family residence. Therefore, noise levels associated with parking lot activities would be below the City's noise level standards of 60 dBA L_{eq} at the nearest single-family residence and 65 dBA L_{eq} at the nearest multi-family residence.

In addition, when averaged over a 24-hour period, parking lot activities would not cause an increase in noise levels of more than 3 dBA. As discussed above, short-term noise measurements (ST-1) determined that noise levels at the San Marcos Apartments are approximately 62.8 dBA L_{eq}, 74.2 dBA L_{max}, and 51.9 dBA L_{min}, with the primary noise source being reported as vehicle traffic on Hilltop Drive and Richmond Parkway. In addition, as noted in Table 6, short-term noise measurements (ST-2) determined that noise levels at the

single-family residences are approximately 68.5 dBA L_{eq}, 81.9 dBA L_{max}, and 52.3 dBA L_{min}, with the primary noise source being reported as vehicle traffic on Richmond Parkway. Therefore it is not expected that the proposed project would substantially increase noise levels over existing conditions and impacts would be less than significant.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels? ***(Less Than Significant Impact)***

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment), and occasional traffic on rough roads. In general, groundborne vibration from standard construction practices is only a potential issue when within 25 feet of sensitive uses. There are no sensitive uses within 25 feet of the project site.

Groundborne vibration levels from construction activities very rarely reach levels that can damage structures; however, these levels are perceptible near the active construction site. With the exception of old buildings built prior to the 1950s or buildings of historic significance, potential structural damage from heavy construction activities rarely occurs. The closest sensitive receptors include the San Marcos Apartments, located approximately 135 feet from the project site and the single-family residences along Richmond Parkway, located approximately 180 feet from the project site. None of these buildings were built prior to the 1950s and are not considered buildings of historic significance. Therefore, these buildings would be located far enough away that they would not result in a significant vibration impact associated with project construction.

The streets surrounding the project area are paved, smooth, and unlikely to cause significant groundborne vibration. In addition, the rubber tires and suspension systems of buses and other on-road vehicles make it unusual for on-road vehicles to cause groundborne noise or vibration problems. It is assumed that no such vehicular vibration impacts would occur and, therefore, no vibration impact analysis of on-road vehicles is necessary. Additionally, once constructed, the proposed project would not contain uses that would generate groundborne vibration. This impact would be less than significant.

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 2 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? ***(No Impact)***

The project site is not located within the vicinity of a private airstrip or an airport land use plan, or within two miles of a public airport or public use airport. The closest airport to the project site is Buchanan Field Airport, which is located approximately 16 feet east of the project site. In addition, Oakland International Airport, located approximately 18 miles south of the project site and the San Francisco International Airport is located approximately 24 miles south of the project site. Although aircraft-related noise is occasionally audible on the project site, the site does not lie within an airport land use plan area or within the 60 dBA L_{dn} noise contours of any of these public airports or private airfields. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels due to the proximity of a public airport.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Impact Analysis

a. Would the project 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)? ***(Less Than Significant Impact)***

The proposed project would include the construction of a new sports facility that would serve existing students at the nearby Making Waves Academy campus. The proposed project would not include residential units and would not directly induce unplanned population growth on the project site. The proposed project also is not a new business, but an expansion of an existing institution. While the Project would generate the need for a small number of employees, this growth is consistent with and within the scope of the planned employment growth assumed in the City's General Plan. Additionally, while a small number of potential future employees may move to Richmond solely for reasons of employment, they most likely would commute from various communities throughout the Bay Area or are already Richmond residents. Therefore, the proposed project would not directly or indirectly induce substantial population growth on the site or in the surrounding area through introduction of new employment uses on the site.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? ***(No Impact)***

The project site is currently undeveloped and does not include any residential uses. Implementation of the proposed project would not result in the displacement of people or housing. Therefore, the proposed project would have no impacts.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

3.15.1 Impact Analysis

a. 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 public services:

i. Fire protection?
ii. Police protection?
iii. Schools?
iv. Parks?
v. Other public facilities? ***(Less Than Significant Impact)***

The following section addresses the proposed project's potential effects on: fire service, police service, schools, parks, and other public facilities. Impacts to public services would occur if the proposed project increases demand for services such that new or expanded facilities would be required, and construction or operation of these new facilities would cause environmental impacts.

Fire Protection. The Richmond Fire Department (RFD) provides fire protection and life safety services to the project site. The RFD continuously operates seven fire stations, which include seven engine companies, two rescue units, a truck company, a hazmat unit, and a breathing support unit. In 2016, the RFD responded to 12,185 calls for service. The RFD is currently staffed with 90 sworn firefighters and 5 civilian staff.[51] Primary service to the project site would be provided by Fire Station 68, located at 2904 Hilltop Drive, approximately 0.8 miles south of the project site. Fire Station 68 includes both an engine company and a rescue unit.

[51] Richmond, City of, n.d. Fire Department Facts. Website: https://www.ci.richmond.ca.us/1483/Department-Facts (accessed October 15, 2018).

The proposed project would result in an increase in the daytime population at the project site and incrementally increase the demand for emergency fire service and emergency medical services compared to existing conditions. However, as noted is Section 3.17.1.d, the proposed project would have adequate emergency access.

The RFD would continue providing services to the project site and would not require additional firefighters to serve the proposed project. As noted in Section 3.14.1.a, the proposed project would not substantially result in a direct or indirect increase in population within the City. The construction of a new or expanded fire station would not be required. The proposed project would not result in a significant impact on the physical environment due to the incremental increase in demand for fire protection and life safety services, and the potential increase in demand for services is not expected to adversely affect existing response times to the site or within the City. Therefore, construction and operation of the proposed project would have a less than significant impact on fire protection and safety services and facilities.

Police Services. The Richmond Police Department (RPD) provides police protection to the project site. The RPD headquarters are located at 1701 Regatta Boulevard, approximately 5.5 miles south of the project site. RPD currently employs 178 sworn police officers and 67 civilian staff for a total of 245 full-time equivalent (FTE) employees. With a current population of 110,967, current staffing levels are approximately 1.6 sworn officers per 1,000 residents.[52] As noted in Section 3.14.1.a, the proposed project would not substantially result in a direct or indirect increase in population within the City. The proposed project would result in an increase in the daytime population of the project site and incrementally increase demand for emergency police services to the project site compared to existing conditions. However, RPD would continue to provide services to the project site and would not require additional officers to serve the project site. The construction of new or expanded police facilities would not be required. Therefore, the proposed project would not result in a substantial adverse impact associated with the provision of additional police facilities or services, and impacts to police services represent a less than significant impact.

Schools. The proposed project does not include the construction of any new residential uses. As described in Section 3.14.1.a, the proposed project would not substantially induce housing or population growth, either directly or indirectly, within the City. Therefore, the proposed project would not result in an increase in the number of school-age children in the area. As such, the proposed project would not increase demand for schools and no impact would occur.

Parks. The proposed project would include the construction of a new sports facility that would operate as an accessory use to the existing Making Waves Academy. The proposed project would serve existing demand from students currently attending the Making Waves Academy. Additionally, after completion, use by the adjacent community and local organizations would be allowed. Therefore, the proposed project would benefit existing neighborhood and regional parks or other recreational facilities by reducing use. Therefore, the proposed project would have a less than significant impact.

52 Richmond, City of, 2018. *FY2018-19 Operating Budget*. June 26.

Other Public Facilities. As noted above, the proposed project does not include the construction of any new residential uses and would not substantially induce housing or population growth, either directly or indirectly, within the City. Therefore, the proposed project would not result in increased demand for other public facilities, such as libraries or community centers, and this impact would be less than significant.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
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?	☐	☐	☒	☐

3.16.1 Impact Analysis

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? ***(Less Than Significant Impact)***

The proposed project would include the construction of a new sports facility that would serve existing demand from students attending the nearby Making Waves Academy. Additionally, after completion, use by the adjacent community and local organizations would be allowed. Therefore, the proposed project would benefit existing neighborhood and regional parks or other recreational facilities by reducing use. Therefore, the proposed project would have a less than significant 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? ***(Less Than Significant Impact)***

Refer to Section 3.15.1.a and 3.16.1.a. The proposed project would have a minor beneficial impact on existing recreation facilities, and this impact would be less than significant.

3.17 TRANSPORTATION

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

3.17.1 Impact Analysis

The following section is based on the information provided in the Transportation Review prepared for the proposed project by Kittelson & Associates in November 2017,[53] included in Appendix E. The following analysis is based on the Transportation Review, unless otherwise noted.

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ***(Less Than Significant Impact)***

Transit. Alameda-Contra Costa Transit District (AC Transit) Line LA is a Transbay bus line that runs along Hilltop Drive with 30-minute intervals on weekdays between 4:30 p.m. and 8:00 p.m., which would coincide with the weekday PM peak hour. As stated above, given the range of start and end times, of practices, swim meets, track meets, tennis matches, and soccer games, only a limited number of vehicle trips generated by the proposed project would coincide with the weekday PM peak hour of the local street network. Therefore, implementation of the proposed project is not anticipated to substantially affect transit service, such as causing a substantive increase in transit travel times, during the weekday PM peak hour.

Bicyclists and Pedestrians. The City of Richmond's Bicycle Master Plan[54] and Pedestrian Master Plans[55] both state that schools and community facilities should be accessible by bike and foot. The Bicycle Master Plan identifies goals to expand the City's bike routes and parking facilities, to increase the number of people of all ages and abilities who travel by bicycle, to make streets safer for bicyclists, and to incorporate the needs and concerns of bicyclists in all transportation and development projects. The proposed project would include the installation of 16 on-site parking spaces, which improves the viability of biking to the project site since a bicyclist would have a designated place to secure a bike while attending a practice or event at the project site.

53 Kittelson & Associates, 2017. op. cit.
54 Richmond, City of, 2011b. *City of Richmond Bicycle Master Plan*. October.
55 Richmond, City of, 2011c. *City of Richmond Pedestrian Plan*. October.

The Pedestrian Master Plan identifies goals to increase or improve security, connectivity, equity, health, and sustainability. The proposed project would include the construction of sidewalks along both sides of Vista del Mar, connecting the project site to the existing sidewalks along Hilltop Drive and the greater pedestrian network within the vicinity of the project site. Mitigation Measure TRA-1 requires the implementation of a marked pedestrian crossing across Vista del Mar to the south of the two project driveways to provide pedestrian connectivity between the two sides of the project site and the two proposed parking lots. By providing sidewalks and marked crossings that connect the project site to the greater pedestrian network, the project site will be accessible to school and community members who would walk to the project site and circulate within the site. Existing sidewalks near the project site, such as along Hilltop Drive, have minimal pedestrian activity and could accommodate the pedestrian trips associated with the project.

Roadways and Freeways. The City's General Plan incorporates criteria from the West County Action Plan for Routes of Regional Significance[56] to establish measures of effectiveness on routes of regional significance. The action plan states an impact would occur if the level of service (LOS) at an intersection would degrade below LOS D for the weekday AM peak hour or weekday PM peak hour. The General Plan does not provide measures of effectiveness for other routes within the City. Recent transportation studies in Richmond have identified measures of effectiveness for other routes within the City based on average intersection delay and LOS at intersections for the weekday AM and PM peak hours.

A recent transportation study conducted for the area near the project site demonstrated that intersections near the project site operate acceptably in the near-term (conditions in 2016 were used as existing conditions for the study) and would continue to operate acceptably in the future (2040 was used as the cumulative year in the study).[57] Since practices, swim meets, track meets, softball games, and soccer games would occur on selected weekdays during some weeks of the school year, the proposed project would not have a typical weekday trip generation. However, sports practices occur more frequently on weekday afternoons than games or meets, so PM peak hour trip generation on team practice days could be indicative of a typical weekday. As shown in Attachment C in Appendix E, fewer than 20 vehicle trips would be generated by the proposed project during the weekday PM peak hour, and would largely consist of a shuttle transporting students from the Making Waves Richmond campus back-and-forth to the project site.

Many Bay Area jurisdictions do not require traffic operations analysis for projects with weekday peak hour trip generations of less than 100 trips because low trip generation is not expected to substantially affect existing or cumulative year traffic operations. The proposed project is expected to generate fewer than 20 weekday PM peak hour trips on a typical weekday. Therefore, implementation of the proposed project is not anticipated to result in significant impacts to the local and regional circulation network during the weekday PM peak hour in the near-term or the long-term. Therefore, the proposed project would not conflict with any plans, ordinances, or policies establishing measures of effectiveness for the performance of the roadway circulation system in the near-term or long-term, and this impact would be less than significant.

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56 West Contra Costa Transportation Advisory Committee, 2014. *West County Action Plan for Routes of Regional Significance*. January.

57 Kittelson & Associates, Inc., 2016. op. cit.

The Contra Costa Transportation Authority (CCTA) has established an LOS standard of LOS E during the weekday AM peak hour and weekday PM peak hour for all parts of the Congestion Management Program network, except those that were already operating at worse levels of service in 1991. As stated in Section 3.17.1.a, given the range of start and end times of practices, swim meets, track meets, tennis matches, and soccer games, fewer than 20 vehicle trips generated by the proposed project would occur during the PM peak hour for the regional circulation network. As also stated above, cumulative impacts with this small amount of additional traffic would be less than significant on the roadways that could be affected by the Project. Therefore, implementation of the proposed project is not anticipated to result in significant impacts to the regional circulation network, and the proposed project would not conflict with CCTA's congestion management program in the near-term or the long-term, and this impact would be less than significant.

Therefore, with implementation of Mitigation Measure TRA-1, the proposed project would not conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths.

b. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)? ***(Less Than Significant Impact)***

The City has not adopted a threshold of significance for vehicle miles traveled (VMT). The Project is not anticipated to induce a substantial number of new VMT as it would mainly serve students from Making Waves and is located near enough to the main campus that any alteration in parent or team trips from the main campus to the Project site would not result in a substantial change in existing VMT.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ***(Less Than Significant Impact with Mitigation)***

The existing transportation network and proposed driveways and parking lot drive aisles would be able to accommodate circulation of standard school buses and anticipated vehicle traffic generated by the proposed project. The Project's circulation would be designed to meet the City's standards, which are adopted by the City to ensure safety. The proposed project would also include the construction of sidewalks on both sides of Vista del Mar, connecting the project site to the existing sidewalks along Hilltop Drive and the greater pedestrian network in the vicinity of the project site. However, the proposed project could create increased pedestrian hazards on the project site. Implementation of Mitigation Measure TRA-1, described below, would ensure that this impact would be reduced to a less than significant level.

TRA-1: Prior to the issuance of a certificate of occupancy, the project applicant shall install a high-visibility marked pedestrian crossing across Vista del Mar with pedestrian warning signs south of the two project driveways to provide safe pedestrian connectivity between the two sides of the project site and the two parking lots.

With implementation of Mitigation Measure TRA-1, the proposed project would not substantially increase hazards due to a design feature or incompatible use and would increase pedestrian safety.

Therefore, the proposed project would not substantially increase transportation safety hazards in the near-term or long-term for vehicular, pedestrian, and bicycling activity. Activity generated by the proposed project would be compatible with the surrounding recreational, residential, and light industrial uses and would not create a conflict that causes a transportation safety hazard. Therefore, the proposed project would have a less than significant impact.

d. Would the project result in inadequate emergency access? ***(Less Than Significant Impact)***

The project site is bisected by Vista del Mar with driveway access from Vista del Mar to the project site on both sides of the street. The Proposed Project would include two parking lots, one serving the Main Field, and one serving the Swim Center and Tennis Courts. Emergency vehicles can access both sides of the project site via these driveways to the parking lots. In addition, as discussed above, the Project would not alter or block any roadways that are used for emergency access for non-Project development. Therefore, the Proposed Project would have a less than significant impact related to emergency access.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. ***(Less Than Significant with Mitigation Incorporated)***

Assembly Bill 52 (AB 52), which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA environmental review process, and equates significant impacts to "tribal cultural resources" with significant environmental impacts. Public Resources Code (PRC) Section 21074 states that "tribal cultural resources" are:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are one of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources.

- Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A "historical resource" (PRC Section 21084.1), a "unique archaeological resource" (PRC Section 21083.2(g)), or a "nonunique archaeological resource" (PRC Section 21083.2 (h)) may also be a tribal cultural resource if it is included or determined to be eligible for inclusion in the California Register.

The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should a tribe have previously requested to be on the agency's notification list. California Native American tribes must be recognized by the California Native American Heritage Commission as traditionally and culturally affiliated with the project site, and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. The consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

Tribal Outreach and Consultation. As described in Section 1.0, Introduction, the District has notified California Native American tribes of the proposed project. Two tribes responded to the District's request.

Ms. Katherine Erolinda Perez, Chairperson of the North Valley Yokut/Ohlone/Bay Miwuk Tribe, responded via email on March 3, 2019, recommending that the proposed project be monitored by both a qualified archaeologist and a Native American Monitor. The City responded via email to Chairperson Perez indicating that the City would include the tribe's recommendations as part of the project approvals.

Mr. Ed Silva, Natural Resources Coordinator of the Wilton Rancheria, responded via email on March 6, 2019, requesting consultation with the City. Mr. Silva also requested that Wilton Rancheria tribal representatives observe and participate in all cultural resource studies, and that the City send all existing cultural resources documentation to the tribe. The City responded via email to Mr. Silva thanking him for his feedback.

The Tribes have not identified any other tribal cultural resources at the project site, and the City has not determined there to be any other significant tribal cultural resources at the project site. The City agreed on appropriate measures (e.g., monitoring) to protect potential Native American resources at the project site that were recommended by the North Valley Yokut/Ohlone/Bay Miwuk Tribe during consultation. These measures have been incorporated into Mitigation Measure CULT-1, described in Section 3.5. Implementation of these measures would satisfy the agreement between the City and tribal representatives under AB 52, and ensure potential impacts from the proposed project would be less than significant.

As noted in Section 3.5, Cultural Resources, implementation of Mitigation Measure CULT-1 and CULT-2 would ensure that potential impacts related to previously undiscovered historic or archaeological resources and human remains would be less than significant.

3.19 UTILITIES AND SERVICE SYSTEMS

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

3.19.1 Impact Analysis

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? ***(Less Than Significant Impact)***

Water. The East Bay Municipal Utility District (EBMUD) provides water service to the project site. The EBMUD service area consists of 20 incorporated cities and 14 unincorporated cities in the counties of Alameda County and Contra Costa County. Potable water is supplied by the San Pablo Dam from the Mokolumne River in the Sierra Nevada and from local rain-fed reservoirs. EBMUD would have sufficient capacity to serve the project site. Development of the proposed project would not substantially increase water demand or wastewater generation at the project site such that new or expanded water or wastewater treatment facilities would be required to serve the proposed project.

The proposed project would connect to existing water delivery systems within the vicinity of the site, and it is anticipated that existing pipelines would have sufficient capacity to support project water flows. Therefore, the proposed project would not require the construction or expansion or relocation of new or expanded water facilities, and the impact would be less than significant.

Wastewater. Four separate districts collect and treat wastewater in Richmond: Richmond Municipal Sewer District, West County Wastewater District (WCWD), East Bay Municipal Utility District, and Stege Sanitary Sewer District. The WCWD provides service to the project site. The WCWD serves

approximately 93,000 customers and owns, operates, and maintains a wastewater collection system with 249 miles of gravity sewer pipelines, 17 lift stations, and 6 miles of pressure force mains.[58]

The NPDES permit for the WCWD's Water Pollution Control Plant (WPCP) states that it is a secondary treatment facility and has a secondary treatment capacity of 12.5 million gallons per day (mgd) for average dry weather flow and 21 mgd peak for wet weather flow.[59] Treated wastewater from the WPCP is transported to the Richmond Municipal Sewer District Water Pollution Control Plant (Richmond Plant) where it is combined with the Richmond Plant's effluent, dechlorinated, and then discharged through the WCWD's common deep-water outfall into central San Francisco Bay. These procedures meet the wastewater treatment requirements of the San Francisco Regional Water Quality Control Board. The average dry weather flows (ADWF) to the WPCP is approximately 8 mgd, and is projected to increase to 9.6 mgd by 2020.[60] Therefore, in 2020, the WPCP is projected to have an available capacity of 2.9 mgd ADWF.

For purposes of this analysis, wastewater generation is assumed to be approximately 1,651 gallons per day (gpd), or about 0.001 mgd. Water demand associated with the proposed project is estimated to be about 4,703 gpd, 3,052 gpd of which would be used for irrigation and field washdown. Although the proposed project would increase wastewater generation, the increase in demand for wastewater services would result in a 0.03 percent decrease in projected available capacity for 2020. Therefore, the WPCP would have sufficient capacity to serve the proposed project, and the proposed project would not require the construction or relocation of wastewater treatment facilities, resulting in a less than significant impact.

Stormwater Drainage. The Project would include new connections and upgrades to existing stormwater infrastructure on the project site. Development of the Project would increase impervious surfaces on the project site. Refer to Section 3.10 for a complete discussion of stormwater drainage facilities. Bio-retention areas would be incorporated into the landscape design to provide appropriate vegetation and water quality treatment in vegetated areas and parking lots. As such, even though the Project would result in an increase in stormwater runoff, the increase would not be substantial and existing stormwater facilities would be adequate to serve the Project.

Electric Power. The Project is an urban area that is already well-served by an existing electric grid. As discuss in Section 3.6, the Project's energy use is within the capacity that can be supplied to the City and no new or expanded electric power facilities would be required to serve the Project.

Natural Gas. The Project is an urban area that is already well-served by natural gas lines. As discussed in Section 3.6, the proposed project would not use natural gas.

Telecommunication Facilities. The Project is an urban area that is well-served by telecommunication facilities and would not require new or expanded telecommunication facilities.

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58 West County Wastewater District, 2014. *District-Wide Master Plan*. December 2.

59 San Francisco Bay Regional Water Quality Control Board, 2013. Order N. R2-2013-0016, NPDES No. CA0038539.

60 West County Wastewater District, 2014. Op. cit.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? ***(Less Than Significant Impact)***

As stated above, water service at the project site is provided by EBMUD. EBMUD obtains approximately 90 percent of its water from the Mokelumne River watershed, and transports it through pipe aqueducts to temporary storage reservoirs in the East Bay hills. EBMUD has water rights and facilities to divert up to a daily maximum of 325 mgd from the Mokelumne River.[61] Average daily water demand within the entire EBMUD service area was 232 mgd in 2015 and is projected to be 267 mgd in 2020.[62]

The proposed project would generate a water demand of approximately 4,073 gpd (0.004 mgd), 3,052 gpd for irrigation and field washdown and 1,651 gpd for the pool and buildings. This accounts for approximately 0.017 and 0.014 percent of EBMUD's projected service-wide daily water demand for 2015 and 2020, respectively. Therefore, existing water entitlements are sufficient to serve the proposed project, and impacts related to water supply would be less than significant.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? ***(Less Than Significant Impact)***

Refer to Section 3.19.1.a for a discussion of the proposed project's impacts to wastewater treatment. The proposed project would result in a very minor contribution to the daily permitted capacity of the wastewater treatment plant and would not exceed the plant's capacity. Therefore, impacts related to the capacity of the existing wastewater treatment plant would be less than significant.

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? ***(Less Than Significant Impact)***

Richmond Sanitary Service provides residential and commercial solid waste, recycling, and green waste collecting services in the City of Richmond. Residential and commercial solid waste is taken to the Golden Bear Transfer Facility before being disposed of at the Keller Canyon landfill. The Golden Bear Transfer Facility has a maximum daily permitted throughput of 1,000 tons per day.[63] Keller Canyon Landfill has a maximum daily permitted throughput of 3,500 tons per day and a remaining

61 Ibid.

62 The planning level of demand differs from the actual 2015 demand, as the planning level does not reflect the effects of implementing measures to reduce water use. After a drought, a rebound effect is expected wherein demand rises back to projected levels, thus, the project demand reflects the total planning level demand.

63 CalRecycle, 2018a. Facility/Site Summary Details: Golden Bear Waste Recycling Center (07-AA-0056). Website: https://www2.calrecycle.ca.gov/swfacilities/Directory/07-AA-0056/ (accessed October 11, 2018)

capacity of 63 million cubic yards (CY). Keller Canyon Landfill's estimated closure date is currently December 2030.[64]

It is reasonable to anticipate that the operator of the sports facility would implement active recycling programs, as they are currently practiced at the Making Waves Academy. Additionally, the City does not require the expansion of any existing landfill under the anticipated growth expected under the General Plan. [65]Therefore, taken together, the existing landfill would have adequate capacity to support the solid waste generation of the proposed project.

CALGreen, the State's Green Building Standards Code, requires jurisdictions to divert a minimum of 50 percent of the nonhazardous construction and demolition (C&D) waste from landfills. The Project would not involve demolition and therefore would not impede goals related the diversion of demolition waste. The Project through construction planning, would minimize waste from construction, and would recycle as much construction waste as is feasible.

AB 341 requires a business, public entity, or non-profit that generates four cubic yards or more of waste each week, or is a multi-family dwelling with five or more units, to recycle. AB 1826 requires businesses that generate a certain amount of organic waste to arrange for organic waste recycling. The City, through its franchise agreement with Republic Services, currently offers garbage collection, recycling, and food-scrap composting collection services to residents and businesses within Richmond. The Project would recycle and compost through services provided by Republic Services.

The Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and therefore and this impact would be less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? ***(Less Than Significant Impact)***

The proposed project would comply with all federal, State, and local solid waste management and reduction statutes and regulations related to solid waste. Also refer to Section 3.19.1.d. Therefore, the proposed project would have a less than significant impact related to compliance with solid waste reduction statutes and regulations.

[64] CalRecycle, 2018b. Facility/Site Summary Details: Keller Canyon Landfill (07-AA-0032). Website: https://www2.calrecycle.ca.gov/swfacilities/Directory/07-AA-0032/ (accessed October 11, 2018).

[65] Richmond, City of. 2011a. op. cit.

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.20.1 Impact Analysis

a–d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project have the impacts listed above in a–d? ***(No Impact)***

The project site is located in an urban area and is not located within or near state responsibility areas or lands classified as a very high fire hazard severity zone.[66] Therefore, the proposed project would not have impacts related to wildland fires.

66 Cal Fire, 2009. *Contra Costa County Very High Fire Hazard Severity Zones in LRA*. January 7.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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.)	☐	☐	☒	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1 Impact Analysis

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ***(Less Than Significant with Mitigation Incorporated)***

Implementation of the mitigation measures recommended in this Initial Study would ensure that the construction and operation of the proposed project would not substantially degrade the quality of the environment; reduce the habitat, population, or range of a plant or animal species; or eliminate important examples of California history or prehistory. Section 3.4, *Biological Resources*, includes mitigation measures to minimize impacts to nesting birds that could occur from project construction. Mitigation is provided in Section 3.5, *Cultural Resources*, in the event that unanticipated archeological or paleontological resources and/or human remains are identified in the project area during construction. With implementation of these mitigation measures, the proposed project would result in less than significant impacts to the quality of the environment. No additional mitigation is required.

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)? ***(Less Than Significant Impact)***

The *CEQA Guidelines* require a discussion of significant environmental impacts that would result from project-related actions in combination with "closely related past, present, and probable future projects: located in the immediate vicinity (CEQA Guidelines Section 15130[b][1][A]). Cumulative environmental impacts are those impacts that by themselves are not significant, but when considered with impacts occurring from other projects in the vicinity would result in a cumulative impact. Related projects considered to have the potential of creating cumulative impacts in association with the proposed project consist of projects that are reasonably foreseeable and that would be constructed or operated during the life of the proposed project.

The proposed project would be located in a highly developed urban area that is largely built out. This project is anticipated to start in March 2020. No other construction projects are anticipated in the immediate area of the project within this timeframe. As described in this Initial Study, the majority of environmental impacts associated with the proposed project would be temporary, construction-related and would be reduced to less than significant with implementation of the mitigation measures contained herein. Therefore, the proposed project's construction would not make a considerable contribution toward a significant cumulative impacts, including noise and air quality impacts related to construction. Operation of the proposed project would not create significant impacts associated with new vehicle trips, air quality emissions, habitat degradation, stormwater runoff, noise, or hazardous materials. In addition the project, like other past, current and reasonably foreseeable future projects, would be required to comply with regulatory requirements (e.g., NPDES and MS4 permits, hazardous waste regulations) aimed at reducing environmental effects. Therefore, the project's operation also would not make a cumulatively considerable contribution towards significant cumulative impacts. Additionally, the proposed project would not generate a significant amount of greenhouse gas emissions and would therefore not result in a cumulatively considerable impact to global climate change. Therefore, cumulative impacts would be less than significant cumulatively considerable and no additional mitigation is required.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ***(Less Than Significant with Mitigation Incorporated)***

As described in this IS/MND, any potential environmental impacts from the project would be reduced to less than significant with the implementation of the recommended mitigation measures. With implementation of measures both incorporated into the project design and recommended as mitigations to reduce the impacts associated with air quality, cultural resources, hazards, and noise, the project would not result in substantial adverse effects on human beings.

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APPENDIX A

AIR QUALITY MODELING RESULTS

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APPENDIX B

BIOLOGICAL CONSTRAINTS ANALYSIS AND JURISDICTIONAL DELINEATION

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APPENDIX C

PIPELINE HAZARD ANALYSIS

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APPENDIX D

NOISE MEASUREMENT SHEETS

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APPENDIX E

TRANSPORTATION REVIEW

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