INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

COLLEGE OF ALAMEDA NEW CENTER FOR LIBERAL ARTS

Prepared for

Peralta Community College District

September 2017

Prepared by

Amy O. Skewes-Cox, AICP
Environmental Planner

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In conjunction with

BASELINE ENVIRONMENTAL CONSULTING
ENVIRONMENTAL COLLABORATIVE
NATALIE MACRIS
PARISI TRANSPORTATION CONSULTING
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WORDSMITH WORD PROCESSING

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CHAPTER I
PROJECT DESCRIPTION

1. Project Title: College of Alameda New Center for Liberal Arts

2. Lead Agency Name and Address:
   Peralta Community College District
   333 East Eighth Street
   Oakland, CA 94606

3. Contact Person and Phone Number: Ms. Atheria Smith (510-587-7864)

4. Project Location:
   555 Ralph Appezzato Memorial Parkway
   Alameda, CA 94501
   Assessor Parcel No. 74-1364-3-2

5. Project Sponsor's Name and Address:
   Peralta Community College District

   333 East Eighth Street
   Oakland, CA 94606

6. General Plan Designation: Public/Institutional/Schools

7. Zoning: R-4, Neighborhood Residential

8. Description of Project:

The Peralta Community College District is proposing the construction of a New Center for Liberal Arts in a portion of the east side of the College of Alameda campus (see Figures 1 and 2). The project site currently contains an internal roadway and a grass-covered area. The 61-acre campus, located at 555 Ralph Appezzato Memorial Parkway, faces Ralph Appezzato Memorial Parkway (Atlantic Avenue) with a significant frontage on Webster Street near the Webster Street Tube. The New Center for Liberal Arts would be intended to replace aging instructional facilities. No increase in the number of students or faculty on the campus is anticipated at this time. Over time, as the College implements its Facilities Master Plan, older buildings would be demolished to make space for future replacement buildings.

The proposed project consists of a new two- and three-story building, approximately 53,000 square feet in area, as follows:

- First Floor (Building Footprint): approximate area 21,500 gross square feet (gsf)
- Second Floor: approximate area 19,000 gsf
- Third Floor (Partial): approximate area 12,500 gsf

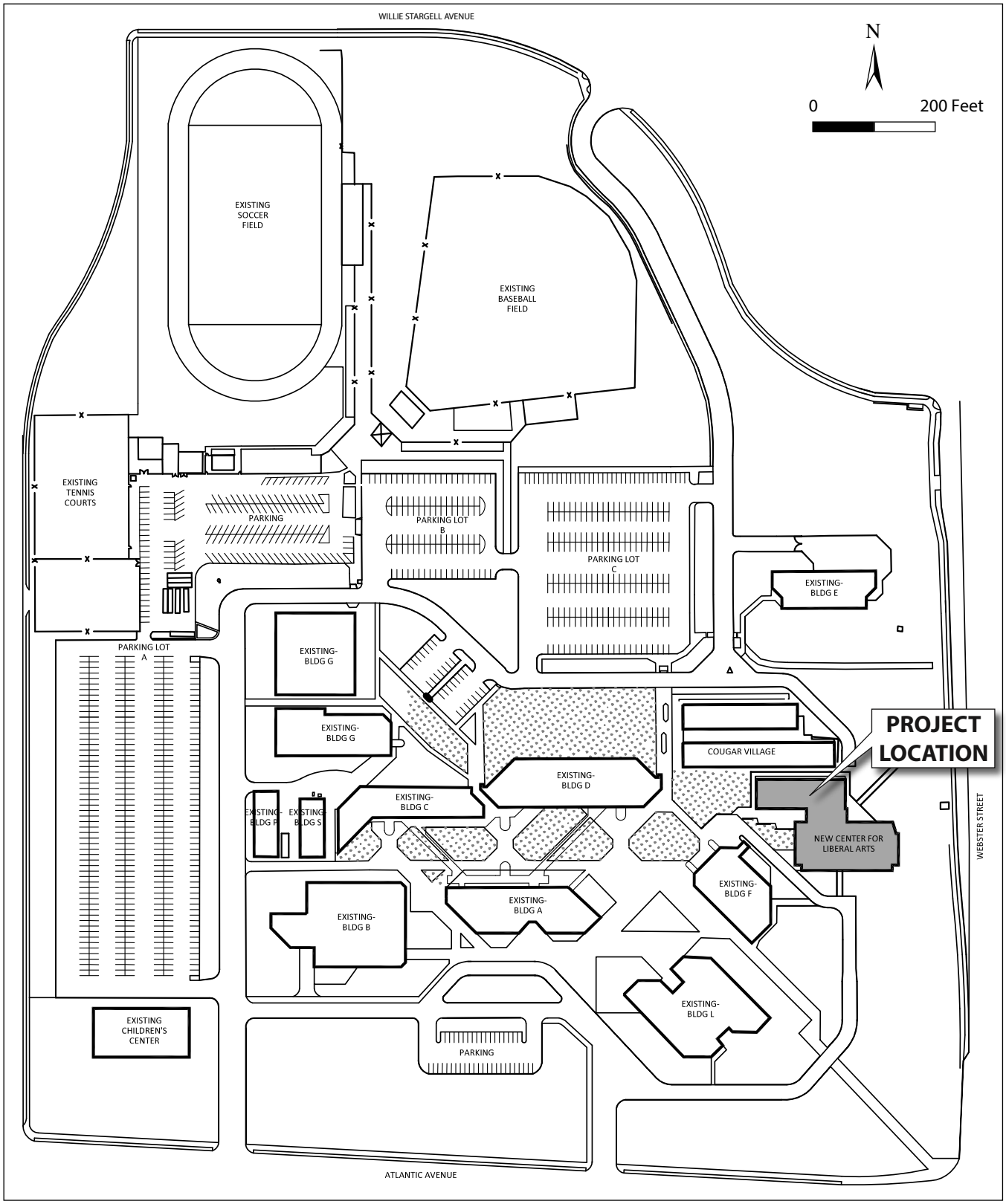


Figure 1

PROJECT LOCATION

SOURCE: Noll & Tam Architects, 2017

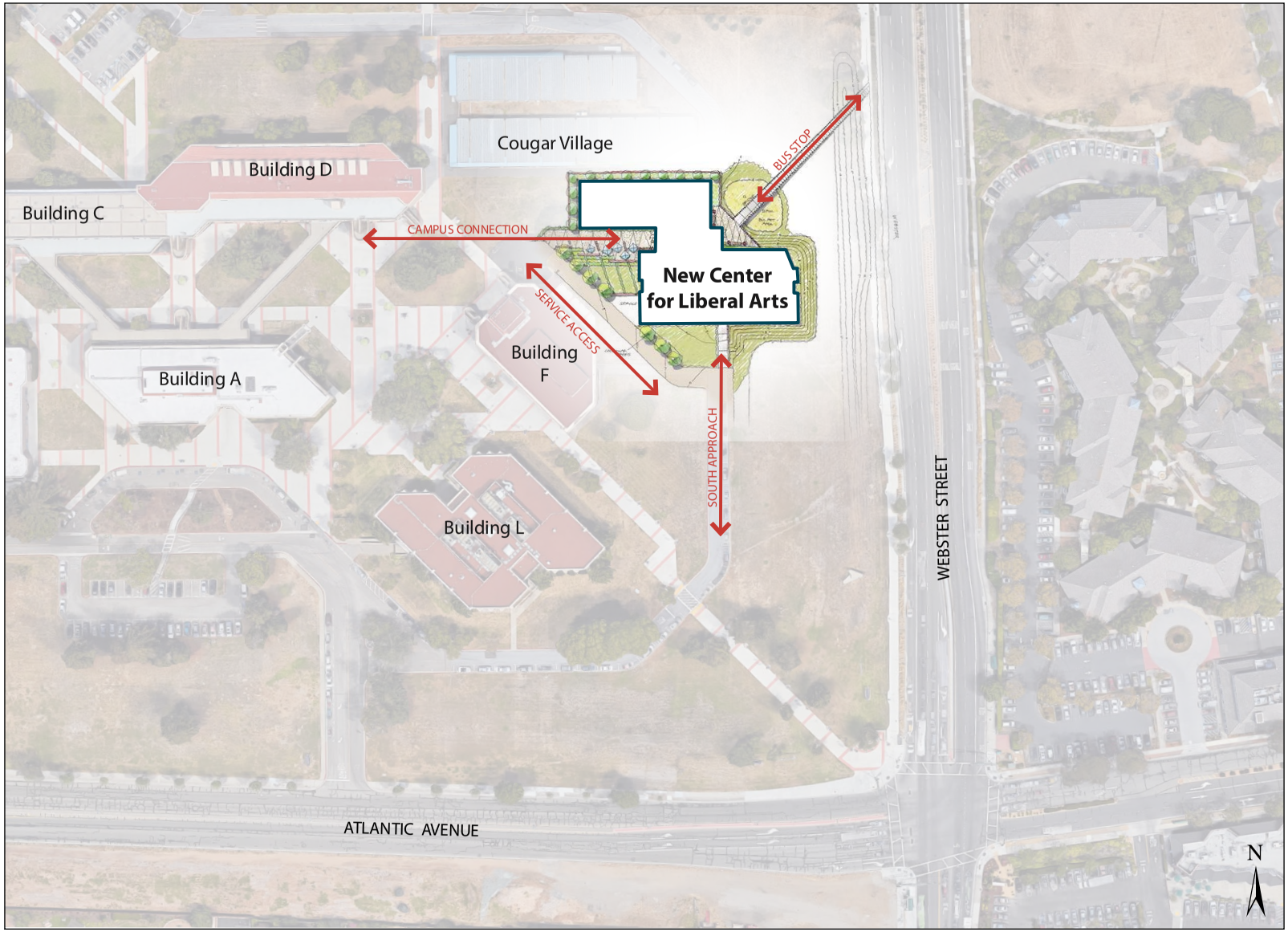


Figure 2

SITE PLAN

SOURCE: Noll & Tam Architects, 2017

The building's height would vary from 42 feet to 52 feet. The building would be sited between existing Building F and a complex of aging relocatable buildings, called Cougar Village, which would be planned for removal as part of a future project. The building would be placed closer to Webster Street than existing buildings to provide a new pedestrian entrance with connections to the neighborhoods to the east, as well as to the AC Transit bus stop on Webster Street. The overall limit of work would be 86,000 gsf, or about 1.97 acres. This 1.97-acre area is considered the "project site."

Functional areas of the building would include the following uses that are now located in Buildings C and D which are planned for demolition in the future:

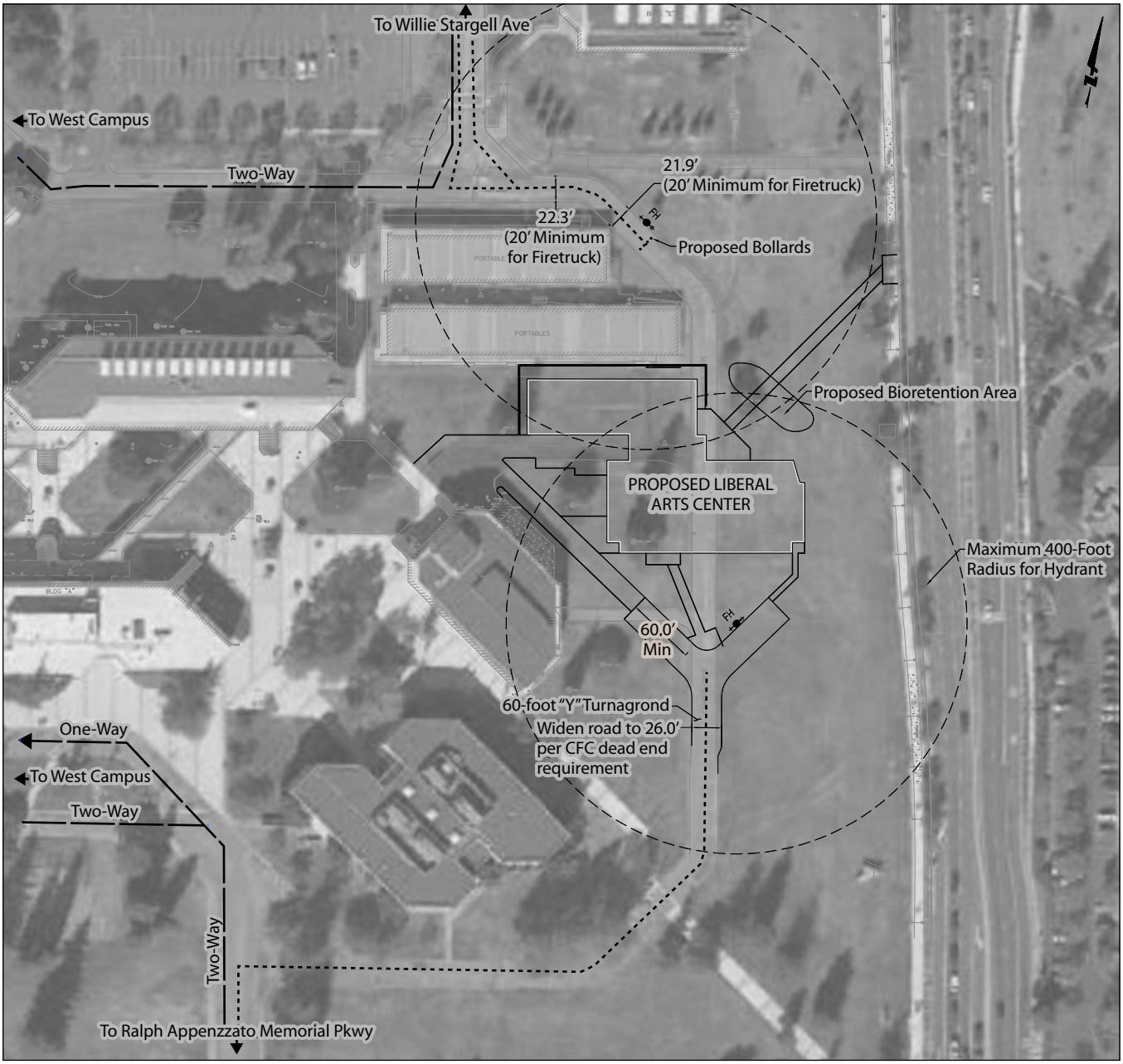
- General Classrooms
- Computer Labs
- Specialized Class Labs (Art Studio and Fashion Design)
- Café
- Art and Fashion Display Areas
- Faculty and Administrative/Deans' Offices

This building's placement would affect the existing on-site Campus Loop Road, which permits emergency vehicle access along the east side of the campus. The project would remove the "loop" and create a two-way service and emergency vehicle access approaching the building from both the north and the south. On the north side of the building, the existing road would allow emergency vehicle access to the existing turnaround area, and a new fire hydrant and bollards would be installed. On the south side, parallel parking would be removed and the road would become a two-way emergency vehicle access lane. A turnaround area conforming with Alameda Fire Department requirements would be provided, and a new fire hydrant would be installed (see Figure 3). A new service access road would also be constructed between the building and existing Building F to provide a service access route to the proposed new building and Building F.

No new parking would be proposed or required as part of this project. Thirty-six (36) staff-only parallel parking spaces would be eliminated as part of the modification to the loop road. In total, approximately 40 spaces may be eliminated as a result of the project. Overall parking capacity on campus has been reported to be adequate and the reduction in parking on the loop road can be offset by other unused parking spaces on the campus (Karas, 2017).

The project's architecture would be simple, modern, and durable. Exterior materials would include panelized rainscreen cladding, high-performance glazing, and prefinished metal panels. The flat roofs would be protected by a parapet and screening would be provided at roof-mounted mechanical units. Building views are shown in Figures 4 and 5.

Campus hours of operation would not be affected by this project. The College offers classes from 7:00 AM to 10:00 PM, Monday through Sunday.



LEGEND

- EMERGENCY VEHICLE ROUTE
- VEHICLE CIRCULATION ROUTE
- FH PROPOSED FIRE HYDRANT

Figure 3

SOURCE: Noll & Tam Architects, 2017

EMERGENCY CIRCULATION AND BIORETENTION AREAS

a) View of project from Webster Street bus stop

b) View of project entry plaza from west

Figure 4

SOURCE: Noll & Tam Architects, 2017

3D VIEW OF PROJECT

Figure 5

SOURCE: Noll & Tam Architects, 2017

VIEW OF PROJECT FROM NORTHWEST

Relationship to the College Facilities Master Plan

The Peralta Community College District commissioned a Facilities Master Plan that was completed in 2009. At that time, the District proposed to demolish existing Buildings C and D and to build two new, larger buildings in the same location. Since that time, the District determined that the cost to build these larger structures, along with the additional cost for interim facilities, made the project infeasible. The current project proposes a single, smaller building intended to replace a substantial portion of existing buildings C and D, which would be removed as part of a future project. Another future project includes removal of the aging relocatable buildings, called Cougar Village. However, these future projects are not dependent on this New Center for Liberal Arts project; thus, the project is not part of a larger project.

The 2009 Facilities Master Plan includes information about the existing campus that is still relevant. Some of the plans and diagrams representing the existing campus are referenced by this Initial Study.

Landscaping and Lighting

The proposed landscape plan for the New Center for Liberal Arts project is shown in Figure 6. Drought-tolerant evergreen shrubs, grasses, and groundcovers adapted to the local climate would serve as the foundation of the planting design. The planting design would also screen undesirable sight lines yet maintain public safety by not creating unwanted hiding spaces. Additionally, plants requiring minimal maintenance and pruning would figure prominently in the design. Tree masses would be used for screening and the delineation of outdoor spaces. Stormwater treatment zones would be landscaped with appropriately selected material.

All plants within the landscape would be located within the appropriate hydrozone in relation to other plant material. Irrigation would use a weather-based irrigation controller, and the design and equipment would promote water conservation that meets the State of California model water-efficient landscape ordinance requirements. Landscape areas over 10 feet in dimension may use high-efficiency spray irrigation, while smaller zones and all trees would be irrigated with bubbler systems.

Lighting would include fixtures required to illuminate new circulation paths. Lighting would also include landscape lighting and fixtures to highlight exterior building features. Building-mounted light fixtures would highlight entrances. All proposed lighting would be light-emitting diode (LED) and metal halide fixtures and would be selected to meet Title 24 requirements. Lighting along the pedestrian pathway leading from the transit stop on Webster Street would use smaller-scaled fixtures to mark this important access route. Light levels would be maintained at 1.0 footcandle for safety during hours of operation, and would be reduced to 0.5 footcandle for security later at night. Fixtures selected for pathway lighting would use light sources that provide high Color Rendering Index (CRI) and distribute light that illuminates the vertical plane for facial recognition.

Building setbacks from Webster Street would be approximately 70 feet. Most of the existing landscape buffer between the College and Webster Street would remain except for removal of two olive trees and the potential removal (pending final grading plan) of up to three Mayten trees located on the existing dirt mound on the campus that runs parallel to Webster Street. The two existing Flowering Pear trees located between the Mayten trees and Webster Street would remain. The building would be somewhat elevated in comparison to existing campus buildings based on geotechnical recommendations related to potential

Figure 6

LANDSCAPE PLAN

SOURCE: Gates & Associates

flooding and sea level rise. The existing berms would be reshaped as part of required on-site stormwater detention, with appropriately selected plantings. Grade adjustments at the base of the building would also be provided with plantings and low walls or berms.

On the campus (west) side, the approach to the building would provide an entry canopy (see Figure 4). There is also an entry of the east side and on the south side of the building.

Grading and Construction

Construction is estimated to begin in Spring 2018 and to conclude in Fall 2019. The total construction period is estimated to be approximately 17 months. Staging for construction equipment and construction worker vehicles would occur in various portions of the project site as development occurs in phases. Because the campus affords access and laydown areas on-site, no rerouting of traffic on public streets would be anticipated to be required.

Site utility construction would be followed by driven pile, grade beam, and pile cap installation. Deep foundations would be required at this site due to the 25- to 30-foot-thick layer of soft soil under the building that is susceptible to settlements. A high likelihood of soil liquefaction during a seismic event also indicates that deep foundations are the appropriate solution as described in the geotechnical report titled *Geotechnical Study, Two New Science Buildings, College of Alameda, 555 Ralph Appezzato Memorial Parkway, Alameda, California*, dated October 26, 2009.

The building ground floor elevation would be raised to the appropriate elevation by creating a suspended ground floor structure. The first floor slab would be slab on grade where the earth forms the underside of the slab, but would be reinforced as a suspended slab to allow settlement to occur, but not impact structure. Some grading at the entry would be necessary to allow access that meets accessibility requirements. The area of grading is shown in Figure 7. A total of 2,500 cubic yards (cy) is estimated to be cut material and 12,500 cy is estimated to be fill, resulting in a net import of 10,000 cy of soil. Assuming 18 cy of soil material per truckload, approximately 556 trips would be associated with bringing fill material to the campus. These trips are expected to be undertaken in a period of 30 working days, with up to 25 trips per day for off-haul.

The delivery of concrete is estimated to result in up to 25 truck trips per day, for a total of about 10 days over the course of the project. During the entire 17 month construction period, about 5 truck trips per day are expected (separate from off-haul and concrete trucks) (Conrad, 2017).

During construction, the entire site would be fenced and locked during non-construction hours.

Construction hours would be consistent with City of Alameda regulations which allow authorized construction activities, including warming-up or servicing of equipment, and any preparation for construction from 7:00 AM to 7:00 PM on weekdays and from 8:00 AM to 5:00 PM on Saturdays. No construction would be allowed on Sundays or official federal national holidays, except as otherwise authorized by the District.

Utilities and Drainage

Energy-saving features are expected to include the following:

- Water-saving plumbing fixtures, at or above standard for State of California Green Building Standards Code.
- Water-efficient irrigation systems, mandated by the Division of the State Architect.
- Indoor lighting systems to meet the minimum code efficiency requirements for Title 24 2016 (2016 California Building Code) e.g., LED lighting, occupancy sensors in offices, and daylight dimming controls at the perimeter zones.

The building would require a new transformer and underground electrical infrastructure as well as underground telecommunications infrastructure on-site. Service to the new transformer may be provided via existing underground conduits beneath Webster Street.

Existing domestic and fire water lines would be rerouted around the building footprint and new fire hydrants would be provided as normally requested by the Alameda Fire Department. The new domestic water and fire water services for the building would be connected to these relocated lines. The proposed building would connect to the campus gas main either to the north or west of the building depending on the design size. There is an existing sanitary sewer line that serves Building F and the portables to the north that would be extended to serve the new building.

There is an existing storm drain line to the north and south of the proposed building. A portion of the storm line to the north would be removed due to building placement and a new storm drain pipe would connect the proposed bioretention area to an existing catch basin. The southern storm drain line would be modified to add new catch basins at the new low points and adjust existing structures to the new grade. The project proposes a stormwater bioretention area of approximately 1,900 square feet in area, northeast of the proposed building. The bioretention area is shown in Figure 3.

9. Surrounding Land Uses and Setting:

The College of Alameda campus is bounded to the south and east by two heavily used arterials, Atlantic Avenue (Ralph Appezzato Memorial Parkway) and Webster Street, respectively. Residential uses are adjacent to these streets to the west, northwest, south, and southeast of the campus as shown in Figure 8. A senior housing facility is located just east of the southeast corner of the campus on Webster Street. The project site is surrounded by campus lands and adjacent to the eastern campus boundary at Webster Street. Neptune Park, an undeveloped site, is located just east of the project site across Webster Street. Commercial and office uses are located north and northeast of the campus as well as southeast of the campus. Nearby commercial uses include a Safeway market, swim school, gas station, hotel, Walgreens pharmacy, and public storage facility. Industrial uses are located farther north, adjacent to San Francisco Bay, which separates the island of Alameda from the city of Oakland to the north (see Figure 8).

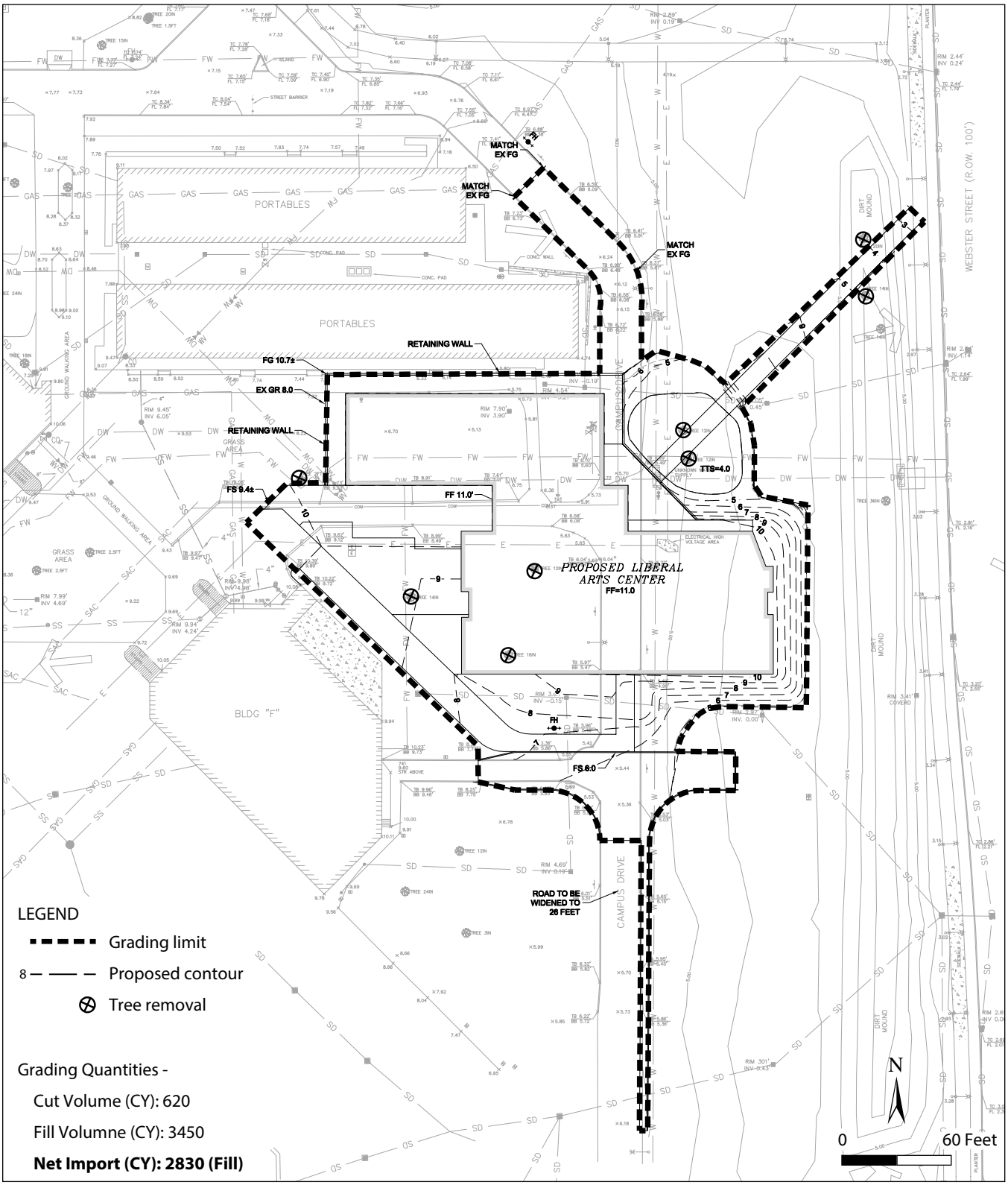
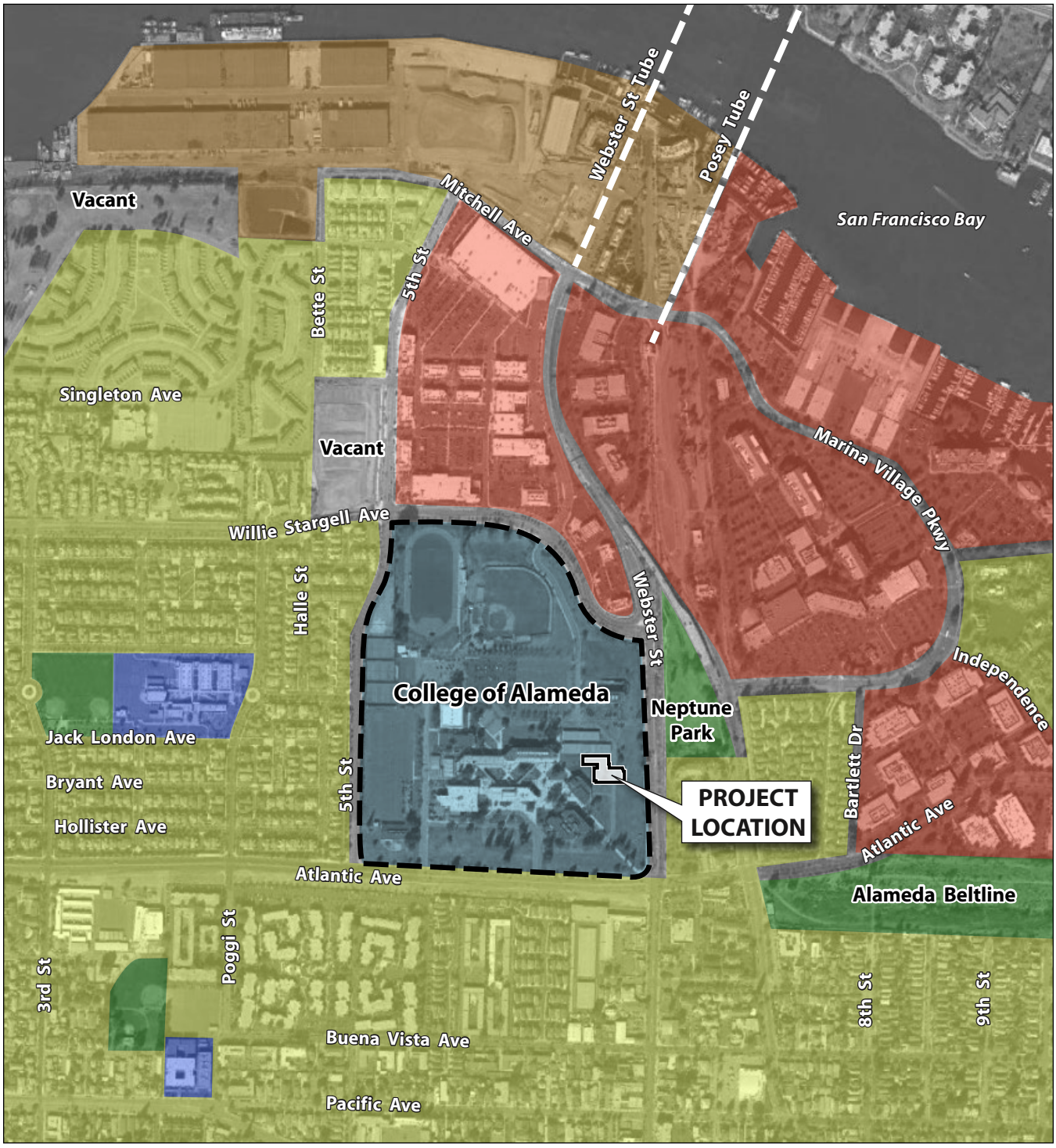


Figure 7

GRADING PLAN

SOURCE: BKF, 2017



LEGEND

- Residential
- Commercial/Office
- School
- Park/Open space
- Industrial

N

0 1000 Feet

Figure 8

SOURCE: A. Skewes-Cox, 2017, and Google Earth, 2017

SURROUNDING LAND USES

10. Required Approvals:

The Peralta Community College District is the principal authority for the proposed project. The Board of Trustees for the District would be responsible for adopting the Mitigated Negative Declaration (MND) for the project and approving the project.

The following additional agencies would be involved in discretionary approvals and permits for various project components:

- The Division of State Architect (DSA) reviews community college project designs to determine compliance with the California Building Code, fire/life safety, and ADA requirements.
- The State Fire Marshal's Office has delegated fire code regulatory responsibilities for community college facilities to DSA.
- The Regional Water Quality Control Board (RWQCB) oversees permitting for projects that could affect water quality. The project would be covered under the State National Pollutant Discharge Elimination System (NPDES) General Construction Permit and Municipal General Permit, which is accomplished by filing a Notice of Intent (NOI) with the RWQCB. A Storm Water Pollution Prevention Plan (SWPPP) and a Stormwater Control Plan (SCP) may be required for the project.
- The Alameda Fire Department administers requirements for new fire hydrants.
- Alameda Municipal Power owns electrical facilities that serve the campus, including conduits in Webster Street.
- City of Alameda oversees grading and drainage, and may be involved if any work under nearby streets is required.

The purpose of this Initial Study/Mitigated Negative Declaration is to analyze the project, and this Initial Study/Mitigated Negative Declaration is intended to apply to all listed approvals and permits as well as to any other approvals or permits necessary or desirable to implement the project.

Pursuant to California Government Code Section 53094, the governing board of a school district may render city or county zoning ordinances and general plan requirements inapplicable to projects related to the provision of classroom facilities. For this project, the District plans to adopt a resolution pursuant to Government Code Section 53094 exempting the project and the campus from any zoning ordinances or regulations of the City of Alameda (where the project is located), including, without limitation, the City's Municipal Code, the City's General Plan, and related ordinances and regulations that otherwise would be applicable.

REFERENCES

Conrad, Mike, C. Overaa & Co., Personal communication with A. Skewes-Cox, May 10, 2017.

Jensen-Van Lienden Associates, Inc., 2009. *Geotechnical Study, Two New Science Buildings, College of Alameda, 555 Ralph Appezato Memorial Parkway, Alameda, California*, October 26.

Karas, Tim, President, College of Alameda. Letter to CEQA Official, April 13, 2017.

Project information as provided by Peralta Community College District and various consultants working for the District, 2017.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant" (PS) as indicated by the checklist on the following pages. For environmental factors not checked, impacts would be "Less than Significant" (LTS) or "No Impact."

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

Determination. (To be completed by the Lead Agency.)

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 (see **Appendix A**). A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

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

Signature — Date: 9/21/17

ATHERLA SMITH — Printed Name

PERALTA — For

CHAPTER II
ENVIRONMENTAL CHECKLIST

INTRODUCTION

The Checklist below addresses 18 environmental topics. Whenever a potential impact is identified, a mitigation measure is proposed. The applicant's agreement to the identified mitigation measures is included as Appendix A. At the end of each numbered impact statement and mitigation measure, the level of significance of the impact before and after mitigation is shown as "Less than Significant" (LTS) or "Potentially Significant" (PS).[1]

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	AESTHETICS. 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) Substantially degrade the existing visual character or quality of the site and its surroundings?	❒	❒	■	❒
	d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	❒	❒	■	❒

IMPACT EVALUATION

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact

The New Center for Liberal Arts would be constructed at the eastern edge of the existing College of Alameda campus in an area that is currently occupied by an internal campus roadway and grass-covered landscaping. The campus is located in an urbanized portion of the City of Alameda and no scenic vistas would be substantially affected. Figure 9 shows existing views of the project site from the north and the south. The new building would expand the core developed portion of the campus, extending it approximately 100 feet farther east. The terrain of the campus and surroundings is fairly level, limiting views to the foreground where one can see existing campus buildings that are one- and two-story and adjacent residential buildings

[1] This Mitigated Negative Declaration (MND) includes a discussion of impacts of the environment on the project, which, pursuant to recent California Supreme Court authority, are not CEQA impacts. The District has included this discussion based on traditional checklist questions in order to be more thorough in the overall analyses.

a) View of Site from Webster Street, looking south from bus stop where new path would be created.

b) View of site looking north from internal Campus Loop Road. Portables are visible in background. Project will result in closure of road at south end of the new building

Figure 9

SOURCE: A. Skewes-Cox, 2017

VIEWS OF SITE

that are two stories in height or less. Webster Street on the east and Atlantic Avenue (Ralph Appezzato Memorial Parkway) on the south are the main streets from which the campus is visible to passing motorists. The new building would not block any scenic vistas from either of these streets. Trees and a hedge along the parking lot of the senior housing facility located southeast of the campus would partially screen views of the site from view.

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 College of Alameda campus is not visible from a State scenic highway. As mentioned above, the two main streets from which the project site is visible are Webster Street and Atlantic Avenue (Ralph Appezzato Memorial Parkway), which border the campus on the east and south, respectively. These streets are not scenic highways, and thus the project would not damage any scenic resources visible from a State scenic highway.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact

The project would not degrade the existing visual character or quality of the site. While some mature trees would be removed (including a spruce tree, a yew tree, a pepper tree, a Coast Redwood, and two olive trees),[2] new trees and shrubbery would be added to the site (see Figure 6), and no other major scenic elements would be removed. A new building with a modern architectural style and significant glazing would be constructed in a level area of the campus now used as an internal roadway and a grass-covered area. As shown in Figures 4 and 5, the building's interior spaces would be highly visible when the building is lit from within. Exterior materials would include panelized rainscreen cladding, high-performance glazing, and prefinished metal panels in a balance of horizontal and vertical elements for the two- and three-story building. Roof-mounted mechanical units would be screened from view.

New landscaping would be planted at the edge of the building as shown in Figure 6. This landscaping would include evergreen and ornamental trees, evergreen shrubs and grasses, and flowering groundcovers. Accent seatwalls and concrete paving would also be created at the edge of the building. Hydroseeding would occur at the eastern edge of the site surrounding an area that would be used as a detention pond to catch stormwater runoff (see Figure 6).

Overall, the project would add a new architectural element to a location of the campus visible from Webster Street and Atlantic Avenue (Ralph Appezzato Memorial Parkway) and provide a modern amenity in proximity to existing buildings that are much older. Outdoor features and landscaping would make this an attractive outdoor space for students and faculty.

[2] It is possible that three Mayten trees near Webster Street may also be removed but this will not be known until the final grading plan is completed.

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

New lighting would occur within the building and along paths that would serve the building. Internal lighting would be quite visible due to the large proposed expanses of glazing but would not create significant glare for surrounding residential areas due to the distance between the new building and nearby residences east of Webster Street and south of Atlantic Avenue. The south and southwest edges of the building would be partially screened from view by proposed evergreen trees (see Figure 6) and existing trees and landscaping along Webster Street and Atlantic Avenue, and the east edge of the building would be partially screened from view from Webster Street by existing trees and landscaping on the campus along Webster Street.

Building-mounted light fixtures would highlight building entrances, and light levels along pathways would be appropriate for safety. LED and metal halide fixtures would be provided to meet Title 24 requirements. Exterior light fixtures along pathways and within the building courtyards would be low and would not result in any significant glare for the surroundings. Light levels would be maintained at 1.0 footcandle for safety during hours of operation, and would be reduced to 0.5 footcandle for security later at night. Thus, no significant glare would occur at nearby residences.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	AGRICULTURAL AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
	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 a non-agricultural use?	❒	❒	❒	■
	b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	❒	❒	❒	■

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined 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 of Statewide Importance to non-agricultural use or conversion of forest land to non-forest use?	❒	❒	❒	■

IMPACT EVALUATION

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 a non-agricultural use?

No Impact

No farmland exists on the project site as mapped in the Farmland Mapping and Monitoring Program of the California Resources Agency. The site is part of an existing college campus in an urbanized area of the City of Alameda.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

No Williamson Act contracts pertain to the project site and the site is not zoned for agricultural use. The site is designated as "Public/Institutional/Schools" in the City of Alameda General Plan (City of Alameda, 2017).

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 site is not zoned as forest land or timberland. It is zoned as R-4, Neighborhood Residential (City of Alameda, 2016).[3]

[3] It should be noted that, for this project, the District plans to adopt a resolution pursuant to Government Code Section 53094 exempting the project and the campus from any zoning ordinances or regulations of the City of Alameda (where the project is located),

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

No forest land exists at the project site.

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 Items (a) though d) above.

REFERENCES

City of Alameda, 2017. Website showing General Plan map. file:///C:/A_Jobs/A%20A%20Peralta%20College%202017/References%20for%20Admin%20Record/Land%20Use,%20Aesthetics,%20Minerals/generalplan_24x36_10_2016_high_res.pdf , accessed June 1, 2017.

City of Alameda, 2016. Zoning Map. Website: https://alamedaca.gov/sites/default/files/document-files/department-files/Community-Development/zoning_map_edited_6_2016_resize_100dpi.pdf, accessed June 1, 2017.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
	a) Conflict with or obstruct implementation of the applicable air quality plan?	❒	❒	■	❒
	b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	❒	■	❒	❒
	c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	❒	■	❒	❒

including, without limitation, the City's Municipal Code, the City's General Plan, and related ordinances and regulations that otherwise would be applicable.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d)	Expose sensitive receptors to substantial pollutant concentrations?	❒	❒	■	❒
e)	Create objectionable odors affecting a substantial number of people?	❒	❒	■	❒

The project site is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). In the SFBAAB, the primary criteria air pollutants of concern are carbon monoxide (CO), ground level ozone formed through reactions of nitrogen oxides (NO_x) and reactive organic gases (ROG), and suspended particulate matter (i.e., respirable particulate matter [PM_{10}] and fine particulate matter [$PM_{2.5}$]). In June 2010, the BAAQMD adopted thresholds of significance to assist lead agencies in the evaluation and mitigation of air quality impacts under the California Environmental Quality Act (CEQA). The BAAQMD's thresholds, which were incorporated into the 2017 *CEQA Air Quality Guidelines*, established levels at which emissions of ROG, NO_x, PM_{10}, $PM_{2.5}$, local CO, and toxic air contaminants (TACs) would cause significant air quality impacts. The BAAQMD's thresholds that relate to the analysis of the project's impacts on the environment are used in this CEQA analysis in conjunction with the BAAQMD's current *CEQA Air Quality Guidelines* (BAAQMD, 2017a). The thresholds of significance used in this CEQA analysis are summarized in Table 1.

IMPACT EVALUATION

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact

In accordance with the federal Clean Air Act and California Clean Air Act, the BAAQMD is required to prepare and update an air quality plan that outlines measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve federal and state ambient air quality standards. In April 2017, the BAAQMD adopted the *2017 Clean Air Plan: Spare the Air, Cool the Climate* (2017 CAP), which includes 85 control measures to reduce ROG, NO_x, PM_{10}, $PM_{2.5}$, TACs, and greenhouse gases (GHGs). The 2017 CAP was developed based on a multi-pollutant evaluation method that incorporates well-established studies and methods on quantifying the health benefits and air quality regulations, computer modeling and analysis of existing air quality monitoring data and emission inventories, and growth projections prepared by the Metropolitan Transportation Commission and the Association of Bay Area Governments (BAAQMD, 2017b).

Based on the BAAQMD's current *CEQA Air Quality Guidelines* (BAAQMD, 2017a), the following criteria should be considered to determine if a project would conflict with or obstruct implementation of the 2017 CAP:

- Does the project include applicable control measures from the air quality plan?
- Does the project disrupt or hinder implementation of any air quality plan control measures?
- Does the project support the primary goals of the air quality plan?

TABLE 1 BAAQMD PROJECT-LEVEL THRESHOLDS OF SIGNIFICANCE

Impact Analysis	Pollutant	Threshold of Significance
Regional Air Quality (Construction)	ROG	54 pounds/day (average daily emission)
	NO_x	54 pounds/day (average daily emission)
	Exhaust PM_{10}	82 pounds/day (average daily emission)
	Exhaust $PM_{2.5}$	54 pounds/day (average daily emission)
	Fugitive Dust (PM_{10} and $PM_{2.5}$)	Best Management Practices (BMPs)
Regional Air Quality (Operation)	ROG	54 pounds/day (average daily emission) 10 tons/year (maximum annual emission)
	NO_x	54 pounds/day (average daily emission) 10 tons/year (maximum annual emission)
	Exhaust PM_{10}	82 pounds/day (average daily emission) 15 tons/year (maximum annual emission)
	Exhaust $PM_{2.5}$	54 pounds/day (average daily emission) 10 tons/year (maximum annual emission)
Local Community Risks and Hazards (Operation and/or Construction)	CO	9.0 ppm (8-hour average) 20.0 ppm (1-hour average)
	Exhaust $PM_{2.5}$ (project)	0.3 $\mu g/m^3$ (annual average)
	Exhaust $PM_{2.5}$ (cumulative)	0.8 $\mu g/m^3$ (annual average)
	TACs (project)	Cancer risk increase > 10 in 1 million Chronic hazard index > 1.0
	TACs (cumulative)	Cancer risk > 100 in 1 million Chronic hazard index > 10.0

Note: ppm = part per million; $\mu g/m^3$ = micrograms per cubic meter
Source: BAAQMD, 2017a.

The 2017 CAP includes control measures that aim to reduce air pollution and GHGs from stationary, area, and mobile sources. The control measures are organized into nine categories: stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants (e.g., methane, black carbon, and fluorinated gases).

As described in Table 2, the project would be consistent with applicable control measures from the 2017 CAP. Since there would be no traffic or population growth associated with the project, the proposed project would not be expected to hinder or disrupt implementation of the 2017 CAP. Because the project would not result in any significant and unavoidable air quality impacts related to emissions, ambient concentrations, or public exposures (see Items (b) through (d) below and Section VII, Greenhouse Gas Emissions), the project would support the primary goals of the 2017 CAP. Therefore, based on the BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD, 2017a), the project would not conflict with or obstruct implementation of the applicable air quality plan, and the impact would be less than significant.

TABLE 2 PROJECT CONSISTENCY WITH BAAQMD'S 2017 CAP

Control Measures	Proposed Project Consistency
Stationary Sources	The stationary source measures are enforced by the BAAQMD pursuant to its authority to control emissions from permitted facilities. The project would not include any new stationary sources, such as an emergency diesel generator. Therefore, the stationary sources control measures of the 2017 CAP are not applicable to the project.
Transportation	The transportation control measures are designed to reduce vehicle trips, use, miles traveled, idling, or traffic congestion for the purpose of reducing vehicle emissions. Since the project would not generate a net increase in vehicle trips, the transportation control measures of the 2017 CAP are not applicable to the project.
Energy	The energy control measures 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 we use 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 2017 CAP are not applicable to the project. However, more than 80% of the power provided to residents and businesses in the City of Alameda is from clean and renewable sources, which is the primary reason the City of Alameda has the lowest GHG emission rates per person in Alameda County (City of Alameda, 2017a).
Buildings	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 building control measures focus on working with local governments that have authority over local building codes to facilitate adoption of best GHG control practices and policies. The project would comply with Title 24 2016 (2016 California Building Code) and would ensure that indoor lighting systems such as LED lighting, occupancy sensors in offices, and daylight dimming controls at the perimeter zones would meet the minimum code efficiency requirements. Therefore, the project would be consistent with the buildings control measures of the 2017 CAP.
Agriculture	The agriculture control measures are designed primarily to reduce emissions of methane. Since the project does not include any agricultural activities, the agriculture control measures of the 2017 CAP are not applicable to the project.
Natural and Working Lands	The control measures for the natural and working lands sector 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 2017 CAP are not applicable to the project.
Waste Management	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 2017 CAP.
Water	The water control measures to reduce emissions from the water sector will reduce 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 of the 2017 CAP are not applicable to the project.
Super GHGs	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 of the 2017 CAP are not applicable to the project.

Source: BAAQMD, 2017b.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Unless Mitigation Incorporated

Construction of the project would generate criteria pollutant emissions that could potentially affect regional air quality. The primary pollutant emissions of concern would be ROG, NO_x, PM_{10}, and $PM_{2.5}$ from the exhaust of off-road construction equipment and on-road construction vehicles (worker vehicles, vendor trucks, and haul trucks). In addition, fugitive dust emissions of PM_{10} and $PM_{2.5}$ would be generated by soil disturbance activities, and fugitive ROG emissions would result from the application of architectural coatings and paving during construction.

The BAAQMD currently recommends using the most recent version of the California Emissions Estimator Model (CalEEMod version 2016.3.1) to estimate construction and operational emissions of pollutants for a proposed project. CalEEMod uses widely accepted models for emission estimates combined with appropriate default data for a variety of land use projects that can be used if site-specific information is not available. The default data (e.g., type and power of construction equipment) are supported by substantial evidence provided by regulatory agencies and a combination of statewide and regional surveys of existing land uses. The primary input data used to estimate emissions associated with construction and operation of the proposed project are summarized in Table 3. A copy of the CalEEMod report for the proposed project, which summarizes the input parameters, assumptions, and findings, is provided in Appendix B. To determine if project construction and operation emissions could substantially contribute to existing violations of federal and/or state ambient air quality standards in the SFBAAB, the project's emissions are compared to the BAAQMD's thresholds of significance, below.

TABLE 3 SUMMARY OF LAND USE INPUT PARAMETERS FOR CALEEMOD ESTIMATE OF PROJECT AIR EMISSIONS

Land Use Type	CalEEMod Land Use Type	Units	Unit Amount
Educational	Junior College (Two-Year)	Square Feet	53,000

Note: The project footprint would be about 1.97 acres.
Source: CalEEMod (Appendix B).

Construction Fugitive Dust Emissions

Impact AIR-1: Fugitive dust emissions during project construction could violate an air quality standard or contribute substantially to an existing or projected air quality violation. (PS)

Project excavation, grading, and material hauling activities during construction could generate fugitive dust PM_{10} and $PM_{2.5}$ emissions that could result in a potentially significant impact in relation to ambient air quality standards. The BAAQMD does not have a quantitative threshold of significance for fugitive dust PM_{10} and $PM_{2.5}$ emissions; however, the BAAQMD considers implementation of dust control measures during construction sufficient to reduce air quality impacts from fugitive dust to a less-than-significant level. More specifically, the BAAQMD recommends that all construction projects implement the Basic Construction Mitigation Measures from the BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD, 2017a) to

reduce emissions of fugitive dust (regardless of the estimated emissions). The BAAQMD's Basic Construction Mitigation Measures for controlling dust are included in Mitigation Measure AIR-1, below.

> *Mitigation Measure AIR-1: During project construction, the contractor shall implement a dust control program that includes the following measures recommended by the Bay Area Air Quality Management District (BAAQMD):*
>
> - *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.*
> - *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
> - *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.*
> - *All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.*
> - *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.*
> - *A publicly visible sign shall be posted with the telephone number of the District and the contractor to contact regarding dust complaints. This District or contractor shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.*
>
> *In addition, an independent construction monitor shall conduct periodic site inspections, but in no event fewer than four total inspections, during the course of construction to ensure these mitigation measures are implemented and shall issue a letter report to the Peralta Community College District documenting the inspection results. Reports indicating non-compliance with construction mitigation measures shall be cause to issue a stop work order until such time as compliance is achieved. (LTS)*

Implementation of Mitigation Measure AIR-1 would reduce potentially significant impacts of fugitive dust emissions during project construction to a less-than-significant level.

Construction ROG, NO_x, and Exhaust PM_{10} and $PM_{2.5}$ Emissions

Based on the proposed project design, construction activities would include site preparation, grading, pile driving, building construction, paving, and architectural coating. Emissions of ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$ during project construction were estimated using the CalEEMod input parameters summarized in Table 4.

Estimates of construction emissions were averaged over the duration of 17 months and compared to the BAAQMD's thresholds of significance in Table 5. The project's estimated emissions for ROG, NO_x and exhaust PM_{10} and $PM_{2.5}$ were below the applicable thresholds and, therefore, emissions of ROG, NO_x and exhaust PM_{10} and $PM_{2.5}$ during project construction would have a less-than-significant impact related to ambient air quality standards.

TABLE 4 SUMMARY OF CONSTRUCTION INPUT PARAMETERS FOR CALEEMOD ESTIMATE OF PROJECT AIR EMISSIONS

CalEEMod Input Category	Construction Assumptions and Changes to Default Data
Construction Phase	The default construction duration was modified to 17 months with work scheduled to begin in Spring 2018. Since there is no existing building to be removed from the project site, no demolition phase was included. A pile driving phase was added.
Material Movement	10,000 cubic yards of soil import is anticipated during the grading phase.
Haul Trips	The default haul trips were modified to a total 556 haul trips based on the anticipated soil import volume and assuming 18 cubic yards of soil import per truck load.
Vendor Trips	The default vendor trip rate during building construction was modified to 5.67 trips per day based on anticipated concrete deliveries (total of 250 trips over about 10 days for the course of the project) and non-concrete deliveries (5 trips per day).

Note: Default CalEEMod data used for all other parameters not described.
Source: CalEEMod (Appendix B).

TABLE 5 ESTIMATED PROJECT CONSTRUCTION AIR EMISSIONS (POUNDS PER DAY)

	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Construction Emissions	3.4	14.9	0.79	0.76
BAAQMD's Thresholds of Significance	54	54	82	54
Exceed Quantitative Threshold?	No	No	No	No

Source: CalEEMod (Appendix B).

Operation ROG, NO_x, and Exhaust PM_{10} and $PM_{2.5}$ Emissions

The primary pollutant emissions of concern during project operation would be ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$ from energy use and area sources (e.g., consumer products, architectural coatings, and landscape maintenance equipment). Emissions from mobile sources would not be a concern, because the project would not result in a net increase in traffic. Based on the project construction schedule, operation was assumed to begin as early as 2020. Because statewide vehicle emission standards are required to improve over time in accordance with the Pavley (Assembly Bill [AB] 1493) and Low-Emission Vehicle regulations (Title 13, California Code of Regulations, Section 1961.2), estimating emissions for the earliest year of operation provides the maximum annual emissions.

The estimated maximum annual emissions and average daily emissions during the operational phase of the proposed project are compared to the BAAQMD's thresholds of significance in Table 6. The estimated emissions for ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$ were below the BAAQMD's thresholds of significance and, therefore, emissions during project operation would have a less-than-significant impact related to ambient air quality standards.

TABLE 6 ESTIMATED PROJECT OPERATION AIR EMISSIONS

	Maximum Annual Emissions (Tons)				Average Daily Emissions (Pounds)			
Emissions Scenario	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Area	0.24	<0.01	<0.01	<0.01	1.32	<0.01	<0.01	<0.01
Energy	0.01	0.09	0.01	0.01	0.05	0.49	0.04	0.04
Total Project Emissions	0.3	0.1	<0.1	<0.1	1.4	0.5	<0.1	<0.1
Thresholds of Significance	10	10	15	10	54	54	82	54
Exceed Threshold?	No	No	No	No	No	No	No	No

Source: CalEEMod (Appendix B).

c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Potentially Significant Unless Mitigation Incorporated

Air pollution in the SFBAAB is generally a cumulative impact and, therefore, future development projects contribute to the region's adverse air quality impacts on a cumulative basis. In developing the thresholds of significance, the BAAQMD considered the emission levels for which an individual project's emissions would be cumulatively considerable, including the emissions of criteria air pollutants already exceeding federal or state ambient air quality standards. The SFBAAB is currently designated as a non-attainment area under the federal and/or state ambient air quality standards for ozone, PM_{10}, and $PM_{2.5}$ and therefore a cumulative air quality impact is occurring. As discussed above, exhaust emissions of ozone precursors (ROG and NO_x), PM_{10}, and $PM_{2.5}$ during project construction and operation would not exceed the BAAQMD's thresholds of significance and therefore would not result in a cumulatively considerable net increase in criteria air pollutant emissions. However, project construction could generate fugitive dust emissions that could be considered cumulatively considerable and result in a potentially significant impact related to ambient air quality standards.

Impact AIR-2: Fugitive dust emissions during project construction could result in a cumulatively considerable net increase of criteria pollutants for which the region is non-attainment under an applicable federal or state air quality standard. (PS)

Mitigation Measure AIR-2: Implement Mitigation Measure AIR-1. (LTS)

Implementation of Mitigation Measure AIR-1 would reduce potentially significant cumulative impacts from fugitive dust emissions during project construction to a less-than-significant level.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact

The term "sensitive receptor" refers to a location where individuals are more susceptible to poor air quality. Sensitive receptors include schools, convalescent homes, and hospitals because the very young, the old, and the infirm are more susceptible than the rest of the public to air quality-related health problems. Residential areas are also considered sensitive to poor air quality because people are often at home for extended periods, thereby increasing the duration of exposure to potential air contaminants. The BAAQMD recommends evaluating the potential impacts on sensitive receptors located within 1,000 feet of a project. The project's potential impacts on sensitive receptors from emissions of CO and TACs are discussed below.

Localized Carbon Monoxide Concentrations

The occurrence of localized CO concentrations, also known as "hotspots," can affect sensitive receptors in local communities. The source of local CO emissions is often associated with heavy traffic congestion, which most frequently occurs at signalized intersections of high-volume roadways. The BAAQMD's threshold of significance for local CO concentrations is equivalent to the 1- and 8-hour California Ambient Air Quality Standards (CAAQS) of 20.0 and 9.0 parts per million, respectively, because these represent levels that are protective of public health. Since there would be no traffic growth associated with operation of the project, the proposed project would not be expected to cause or contribute to local CO levels above the CAAQS. Therefore, the project would have a less-than-significant impact on nearby sensitive receptors related to local CO concentrations.

Toxic Air Contaminants from Construction

Project construction would generate diesel particulate matter (DPM) and $PM_{2.5}$ emissions from off-road diesel construction equipment and on-road vehicles accessing the project site, and these emissions could affect nearby sensitive receptors. The annual average concentrations of DPM and $PM_{2.5}$ concentrations were estimated within 1,000 feet of the proposed project using the U.S. Environmental Protection Agency's Industrial Source Complex Short Term (ISCST3) air dispersion model. For this analysis, emissions of exhaust PM_{10} were used as a surrogate for DPM. The input parameters and assumptions used for estimating emission rates of DPM and $PM_{2.5}$ from off-road diesel construction equipment and on-road vehicles (worker, vendor, and haul trucks) accessing the project site are included in Appendix B.

Daily emissions from off-road construction equipment and on-road vehicles were assumed to occur over a period of 17 months. The exhaust from off-road equipment was represented in the ISCST3 model as a series of volume sources with a release height of 5 meters to represent the mid-range of the expected plume rise from frequently used construction equipment. On-road vehicles accessing the project site were represented in the ISCST3 model as a series of line-area sources with a release height of 3 meters for exhaust emissions.

A uniform grid of receptors spaced 10 meters apart with receptor heights of 1.8 meters was encompassed around the project site as a means of developing isopleths (i.e., concentration contours) that illustrate the air dispersion pattern from the various emission sources. The ISCST3 model input parameters included

1 year of BAAQMD meteorological data from the Oakland Sewage Treatment Plant weather station located about 3.2 miles northwest of the project site.

Based on the results of the air dispersion model (Appendix B), potential health risks were evaluated for an adult between the ages of 16 and 70 years old residing in a retirement community 30 feet away from the proposed project, and a child between the ages of 0 and 2 years in a private house 670 feet away from the proposed project. The annual average concentrations of DPM and $PM_{2.5}$ at the two off-site maximally exposed individual residents (MEIR) are summarized in Table 7.

TABLE 7 ANNUAL AVERAGE CONCENTRATIONS AT MEIRS DURING PROJECT CONSTRUCTION

MEIR	Distance (Feet)	Pollutant	Annual Average Concentration
Adult at retirement community	230	DPM ($\mu g/m^3$)	0.199
		$PM_{2.5}$ ($\mu g/m^3$)	0.191
Child in private house	670	DPM ($\mu g/m^3$)	0.040
		$PM_{2.5}$ ($\mu g/m^3$)	0.038

Note: $\mu g/m^3$ = micrograms per cubic meter
Source: See Appendix B.

In accordance with guidance from the BAAQMD (2012b) and the Office of Environmental Health Hazard Assessment (OEHHA, 2015), a health risk assessment was conducted to calculate the incremental increase in cancer risk and chronic hazard index (HI) to sensitive receptors from DPM emissions during construction. The acute HI for DPM was not calculated because an acute reference exposure level has not been approved by the OEHHA and the California Air Resources Board (CARB), and the BAAQMD does not recommend analysis of acute non-cancer health hazards from construction activity. The annual average concentration of DPM at the MEIR was used to conservatively assess potential health risks to nearby sensitive receptors.

The incremental increase in cancer risk from DPM emissions during construction was assessed for an elderly person at a retirement community and a child between the ages of 0 and 2 years old at a private house exposed to DPM at their respective MEIR locations. These exposure scenarios represent the most sensitive individual on-site and off-site who could be exposed to the most adverse air quality condition in the vicinity of the proposed project. It was assumed that the MEIRs would be exposed to the annual average DPM concentration over the entire estimated duration of construction, which is about 17 months; therefore, this analysis is conservative. The input parameters and results of the health risk assessment are included in Appendix B.

Estimated health risks at the MEIRs from DPM and $PM_{2.5}$ concentrations during construction of the proposed project are summarized and compared to the BAAQMD's thresholds of significance in Table 8. All the health risks and hazards at the MEIR were below the BAAQMD's thresholds of significance. Therefore, the excess cancer risks at the MEIR locations would be less than significant.

On-campus sensitive receptors at the College of Alameda are college students, minors from nearby high schools who may choose to enroll in the College of Alameda for course credits, and toddlers enrolled in the Head Start preschool program located about 1,050 feet southwest of the project site. As shown in Figure 10 and Appendix B, the existing buildings where the on-campus sensitive receptors would be are upwind of the project site, and therefore would receive comparable or lower PM concentrations compared to the MEIRs shown in Table 7. Furthermore, the on-campus sensitive receptors would be exposed to a shorter

Base: Google Earth Pro, 2017.

Legend

- Project Building Footprint
- Project Limits of Disturbance
- 1,000-Foot Buffer around the Project Building
- Existing Stationary Source
- Maximally Exposed Individual Residents
- On-Campus Sensitive Receptors

N

0 400 Feet

Figure 10

LOCAL SOURCES OF TOXIC AIR CONTAMINANTS

SOURCE: Baseline Environmental Consulting, 2017

duration of construction emissions compared to the MEIRs located in residences because students and toddlers enrolled in the preschool program would only be on campus during hours of operation. Therefore, the excess health risks for the on-campus sensitive receptors would be lower than the excess health risks for the MEIRs shown in Table 8, and would be less than significant.

TABLE 8 HEALTH RISKS AND HAZARDS AT MEIR DURING PROJECT CONSTRUCTION

	Diesel Particulate Matter		Exhaust $PM_{2.5}$
MEIR Location	Cancer Risk (per million)	Chronic Hazard Index	Annual Average Concentration ($\mu g/m^3$)
Nearest Residential Receptor (Retirement Community)			
Adult at MEIR	0.9	0.04	0.20
Second Nearest Residence (Private House)			
Child at MEIR	7.9	0.01	0.04
Thresholds of Significance	10	1	0.3

Notes: $\mu g/m^3$ = micrograms per cubic meter
Source: See Appendix B.

Toxic Air Contaminants from Operation

Project operations would not introduce a new stationary source of TAC emissions. Therefore, project operations would have no impact on nearby sensitive receptors related to substantial pollutant concentrations.

Cumulative TAC Emissions

In addition to a project's individual TAC emissions during construction and operation, the BAAQMD recommends evaluating the potential cumulative health risks to sensitive receptors from existing and reasonably foreseeable future sources of TACs, including project construction and operation activities. The BAAQMD's online screening tools were used to provide conservative estimates of how much existing and foreseeable future TAC sources would contribute to cancer risk, HI, and $PM_{2.5}$ concentrations at the MEIR. The individual health risks associated with each source were summed to find the cumulative impact at the MEIRs.

Based on the BAAQMD's *Stationary Source Screening Analysis Tool* (BAAQMD, 2012b), there is one existing stationary source of TAC emissions within 1,000 feet of the MEIR located at a private house (see Table 9 and Figure 10). The project would not introduce a new stationary source of TAC emissions, and there are no foreseeable developments proposed within 1,000 feet of the MEIR that would include a new stationary source of TAC emissions (e.g., emergency diesel generators) (City of Alameda, 2017b).

Based on review of 2015 average annual daily traffic (AADT) volumes forecasted in Alameda County by Kalibrate Technologies (2016), Webster Street is the only major roadway with an AADT volume greater than 10,000 vehicles per day within 1,000 feet of the MEIR (see Table 9 and Figure 10). The maximum

potential health risks at the MEIR from mobile emissions along Webster Street were estimated using the BAAQMD's *Roadway Screening Analysis Calculator* (BAAQMD, 2015).

TABLE 9 SUMMARY OF CUMULATIVE HEALTH RISKS AT MEIR

Location	Source	Source Type	Cancer Risk (10^{-6})	Chronic Hazard Index	$PM_{2.5}$ ($\mu g/m^3$)
Adult at MEIR	Proposed Project				
	Construction	Diesel Exhaust	0.9	<0.1	0.20
	Existing Mobile Sources				
	Webster Street (31,080 AADT)	Major Roadway	21.8	NA	0.43
Child at MEIR	Proposed Project				
	Construction	Diesel Exhaust	7.9	<0.1	<0.01
	Existing Mobile Sources				
	Webster Street (31,080 AADT)	Major Roadway	4.7	NA	0.09
	Existing Stationary Sources				
	Marina Village Cleaners (5649)	NA	59.9	0.16	<0.01
	Cumulative Health Risks for Adult at MEIR		22.7	<0.1	0.6
	Cumulative Health Risks for Child at MEIR		72.5	0.17	0.1
	Thresholds of Significance		100	10.0	0.8
	Threshold Exceedance?		No	No	No

Notes: $\mu g/m^3$ = micrograms per cubic meter; NA = not applicable
Sources: BAAQMD, 2012b; BAAQMD, 2015; Kalibrate Technologies, 2016.

Estimates of the cumulative health risks at the MEIR are summarized and compared to the BAAQMD's cumulative thresholds of significance in Table 9. The excess cancer risk, the chronic HI from DPM emissions and annual average $PM_{2.5}$ concentrations at the MEIRs were below the BAAQMD's cumulative thresholds emissions. Therefore, the cumulative impact on nearby off-site sensitive receptors from TAC emissions during construction and operation of the proposed project would be less than significant.

As shown in Figure 10, the on-campus sensitive receptors are located to the west of Webster Street and are farther away from Webster Street compared to the off-site MEIRs. Therefore, the cumulative impact of the project on the on-campus sensitive receptors would be lower than the cumulative impact on the MEIRs and would be less than significant.

e) Would the project create objectionable odors affecting a substantial number of people?

Less Than Significant Impact

Project construction and operation would not be expected to generate significant odors because the project would not include handling or generation of noxious materials. Therefore, project impacts related to odors would be less than significant.

REFERENCES

Bay Area Air Quality Management District (BAAQMD), 2017a. *CEQA Guidelines*, May 9.

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	BIOLOGICAL RESOURCES. 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	❒	❒	❒	■
	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?	❒	❒	❒	■

IMPACT EVALUATION

Information regarding biological and wetland resources for the project site is based on the review of available information, including project designs and the occurrence records of the California Natural Diversity Data Base (CNDDB) of the California Department of Fish and Wildlife (CDFW). A field reconnaissance was conducted by the Initial Study biologist on May 30, 2017, to inspect existing conditions and assess the potential impacts of the proposed project.

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?

Potentially Significant Unless Mitigation Incorporated

Special-status species are plants and animals that are legally protected under the State of California and/or federal Endangered Species Acts[4] or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"[5] of these species.

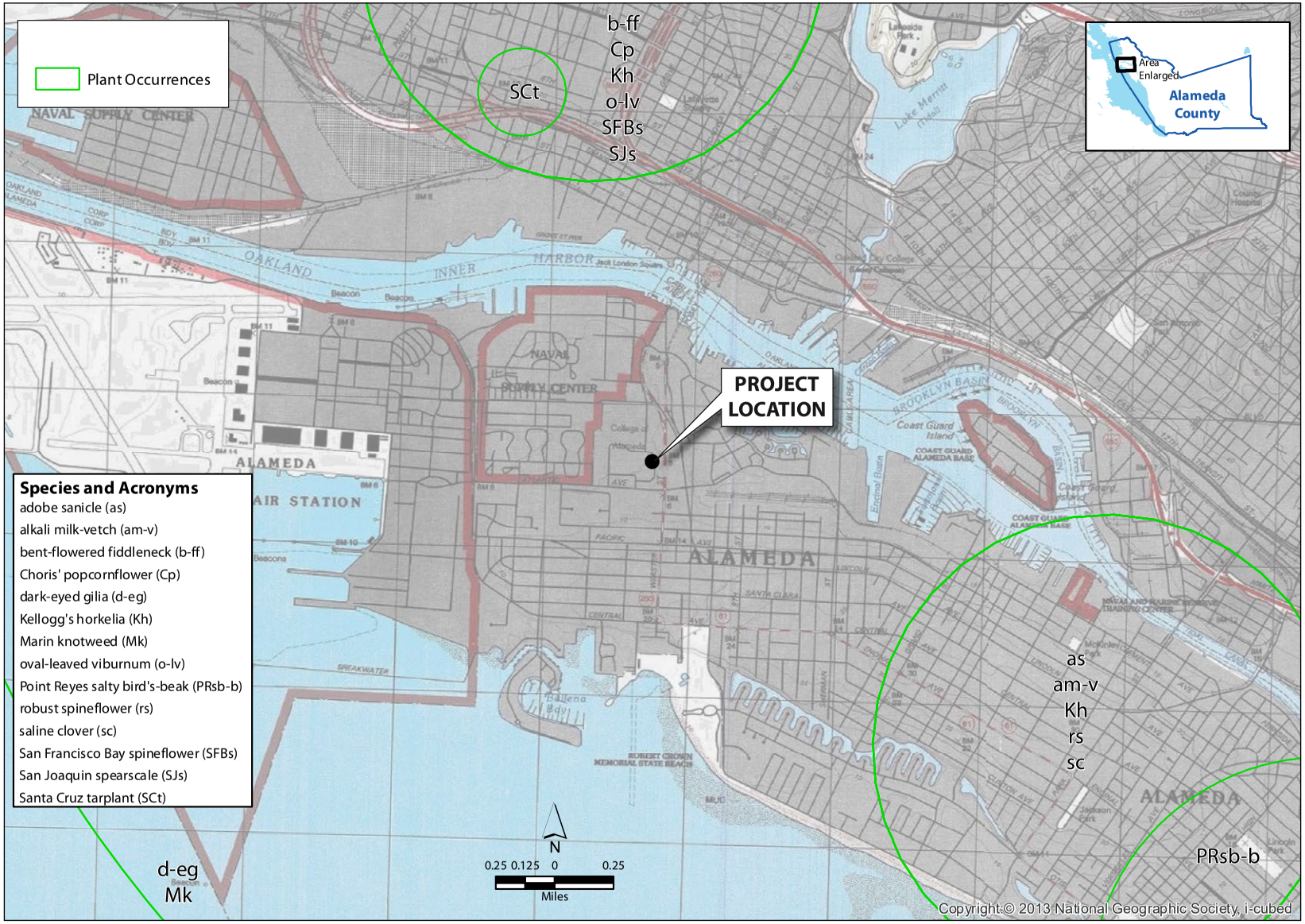
Figures 11 and 12 show the known occurrences of special-status plant and special-status animal species in the surrounding Alameda vicinity, respectively (CDFW, 2017 and USFWS, 2017). No occurrences of any special-status plant species have been reported by the CNDDB from the project site or surrounding area. Occurrences of 14 special-status plant species have been reported by the CNDDB within several miles of the site, but no specific occurrences of any special-status plant species have actually been recorded from the site. Broad, generalized occurrences of dark-eyed gilia (*Gilia millefoliata*) and Marin knotweed (*Polygonum marinense*) extend over all of Alameda and most of the west Oakland vicinity, but these are from old records from 1863 where the location could not be verified by the CNDDB. The developed condition of the site with no remaining natural habitat precludes even the remote potential for presence of an occurrence of special-status plant species on the site.

General occurrences of Alameda song sparrow (*Melospiza melodia* ssp. *pusillula*), which is recognized as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW), extend along the shoreline of Alameda and areas northwest and southeast of the site. Occurrences of 11 other special-status animal species have been reported from the Alameda vicinity, but no occurrence records for any of these species extend over the site. Due to the extent of past and on-going disturbance and lack of essential habitat features, no special-status animal species are suspected to occur on the site.

A single, partially constructed bird nest was observed in the blackwood acacia (*Acacia melanoxylon*) tree proposed for removal as part of the project. No other evidence of any bird nests was observed during the field reconnaissance survey, or has been reported from the site by the CNDDB. However, there remains a remote potential that new nests of common bird species could be established in the future in advance of construction. Tree removal and building demolition during initial grubbing as part of project implementation could result in the inadvertent destruction of an active nest and loss of eggs or young, which would be a significant impact and a violation of the federal Migratory Bird Treaty Act and State Fish and Game Code.

[4] The federal Endangered Species Act (FESA) of 1973 (16 U.S.C. Section 703, *et seq.*) declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 (Fish and Game Code, Section 2050, *et seq.*) parallels the policies of the FESA and pertains to native California species. For discussion of local or regional plans, see analysis under Item (e), below.

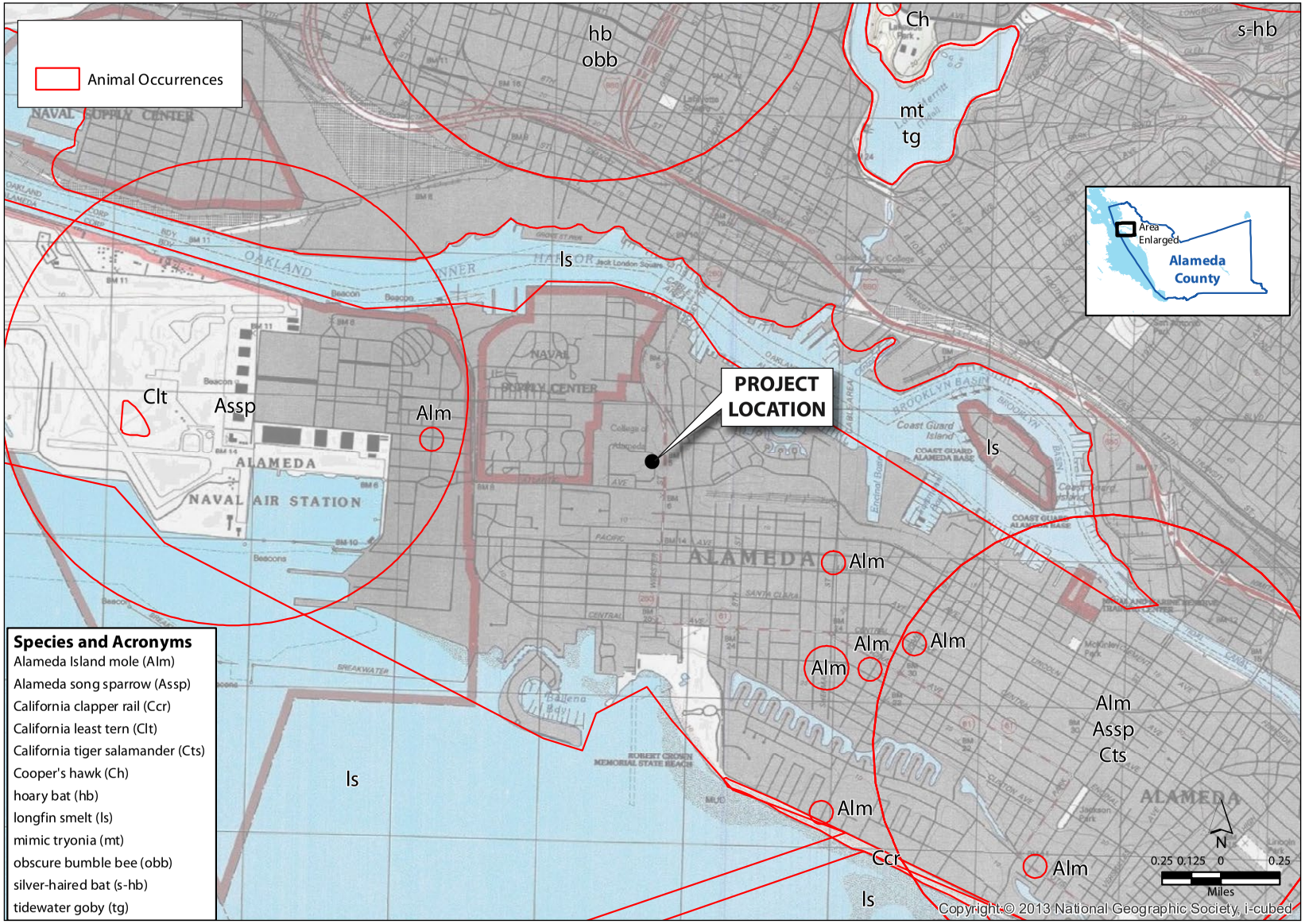
[5] "Take" as defined by the FESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the United States Fish and Wildlife Service (USFWS) to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The California Department of Fish and Wildlife (CDFW) also considers the loss of listed species habitat as take, although this policy lacks statutory authority and case law support under the CESA. Additionally, the Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, *et seq.*) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations or pursuant to certain regulatory exceptions.



SOURCES: California Natural Diversity Database accessed on May 4, 2017;
USFW Critial Habitat Database accessed on May 10, 2017, USGS base map by ESRI.
Map produced by www.digitalmappingsolutions.com on 5/19/2017.

Figure 11

SPECIAL-STATUS PLANT SPECIES RECORDS



SOURCES: California Natural Diversity Database accessed on May 4, 2017;
USFW Critial Habitat Database accessed on May 10, 2017, USGS base map by ESRI.
Map produced by www.digitalmappingsolutions.com on 5/19/2017.

Figure 12

SPECIAL-STATUS ANIMAL SPECIES RECORDS

Restricting the timing of initial tree removal, building demolition and grubbing to outside the bird nesting season (from March through August) or conducting pre-construction surveys during the nesting season and implementing appropriate nest buffer measures while a nest is occupied would ensure avoidance of any adverse impacts on nesting birds. The following measure is recommended to fully mitigate the potentially significant impacts of the project on special-status species.

Impact BIOLOGY-1: Removal of trees and other vegetation during project construction may result in the inadvertent destruction of active bird nests unless appropriate precautions are followed. (PS)

Mitigation Measure BIOLOGY-1: Any active bird nests in the vicinity of proposed vegetation removal and grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and vegetation removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for active nests. A pre-construction survey report verifying that no active nests are present, or that nesting has been completed as detailed below, shall be submitted to the Peralta Community College District for review and approval prior to initiation of grading or vegetation removal during the nesting season. Provisions of the pre-construction survey and nest avoidance measures, if necessary, shall include the following:

- *If initial grubbing and grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 7 days prior to initiation of grading or vegetation removal to provide confirmation on presence or absence of active nests in the vicinity.*

  If active nests are encountered, species-specific measures shall be prepared by a qualified biologist through informal consultation with the California Department of Fish and Wildlife (CDFW) and implemented to prevent nest abandonment. At a minimum, vegetation removal and grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest setback zone of at least 100 feet for raptors and 50 feet for passerine birds shall be established, and all construction-related disturbances shall be prohibited within the nest setback zone. The perimeter of the nest setback zone shall be fenced or adequately demarcated and construction personnel restricted from the area.

- *If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest setback zone until a qualified biologist verifies either that a) the birds have not begun egg-laying and incubation, or b) the juveniles from the nest are foraging independently and capable of independent survival at an earlier date.*

- *A survey report of findings verifying that any young have fledged shall be submitted for review and approval by the District prior to initiation of grading or vegetation removal in the nest setback zone. Following approval by the District, grading, vegetation removal, and construction in the nest setback zone may proceed as proposed.*

Implementation of Mitigation Measure BIOLOGY-1 would reduce potentially significant impacts on nesting birds to a less-than-significant level. (LTS)

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

Sensitive natural communities are community types recognized by the CDFW and other agencies because of their rarity. In the Alameda vicinity, sensitive natural community types include coastal salt marsh, brackish water, and freshwater marshlands. However, sensitive natural community types are absent from the site and vicinity of proposed construction, and no adverse impacts are anticipated. No significant impacts are anticipated and no mitigation is required.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Technical standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers (Corps) and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions.

The CDFW, Corps, and California Regional Water Quality Control Board (RWQCB) have jurisdiction over modifications to wetlands and other "waters of the United States." Jurisdiction of the Corps is established through provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material without a permit. The RWQCB jurisdiction is established through Section 401 of the Clean Water Act, which requires certification or waiver to control discharges in water quality, and the State Porter-Cologne Act. Jurisdictional authority of the CDFW over wetland areas is established under Sections 1600-1607 of the State Fish and Game Code, which pertain to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream.

A preliminary wetland assessment was conducted during the field reconnaissance, and no indication of jurisdictional waters was observed on the site. Appropriate best management practices would be implemented during construction to prevent erosion and sedimentation that could enter the storm drain system and eventually be discharged downstream into the Rush Creek Marsh, as discussed further in Section IX, Hydrology and Water Quality, of this Initial Study.

Jurisdictional waters are absent from the site and vicinity of proposed construction, and therefore no adverse impacts are anticipated and no mitigation is required.

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 Impact

The proposed project would not have any significant adverse impacts on wildlife movement opportunities or adversely affect native wildlife nursery sites. Wildlife in the vicinity of the site are already acclimated to human activity, and construction-related disturbance would not cause any significant impacts on common wildlife species found in the area. Some common species could be eliminated or displaced from the site during construction, but these are not special-status species and their loss or displacement would not be considered a significant impact. Pre-construction surveys recommended in Mitigation Measure BIOLOGY-1 would ensure avoidance of any nesting birds if new nests become established before construction is initiated. Wildlife species commonly associated with suburban habitat would eventually frequent the site again following construction, using the remaining trees, proposed ornamental landscaping, and even structures for foraging, roosting, and other activities. No substantial disruption of movement corridors or access to native wildlife nursery sites is anticipated. Potential impacts on wildlife movement opportunities would be less than significant and no mitigation is required.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

Conformance with General Plan

The Open Space and Conservation Element of the City of Alameda General Plan includes Guiding and Implementing Policies related to preservation of biological and wetland resources. However, these generally pertain to wetlands associated with San Francisco Bay, not found on the site. Implementing Policy 5.1.bb requires that a biological assessment be completed where a proposed development site may affect special-status species. This Initial Study provides that biological analysis in conformance with this policy, although suitable habitat for special-status species is absent. The project is not expected to have any conflicts with the relevant policies of the City's General Plan.

Conformance with Municipal Code

No major conflicts with provisions in the Municipal Code pertaining to trees and vegetation are anticipated. An estimated nine trees with trunk diameters ranging from about 8 to 24 inches would be removed to accommodate the project. These consist of three mayten trees (*Maytenus boaria*), two olive trees (*Olea europaea*), one coast redwood (*Sequoia sempervirens*), one deodar cedar (*Cedrus deodara*), one spruce (*Picea* spp.), and one blackwood acacia (*Acacia melanoxylon*). None of these trees are identified as protected trees under the City's Municipal Code. These trees are generally in fair to good condition, and were planted as landscaping. Disturbance within the dripline of trees can result in damage to the trunk, limbs, and root systems and can alter drainage patterns and surface soil conditions, contributing to the decline and sometimes accelerating the death of individual trees. Construction could adversely affect a number of flowering pear (*Pyrus* spp.) trees along the Webster Street frontage to be retained. However,

appropriate controls would be taken as part of the project to protect these street trees, and other trees at the periphery of the site, such as the mature deodar cedar trees in the landscaped plaza area about 30 feet west of the site. New landscaping would serve to replace the scattered trees removed as part of the project, and no significant conflicts with provisions in the local ordinance related to trees and other biological resources are anticipated.

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

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other conservation plan applies to the project site or vicinity. No impacts regarding possible conflicts with an adopted plan are anticipated, and no mitigation would be required.

REFERENCES

California Department of Fish and Wildlife (CDFW), California Natural Diversity Data Base, 2017. GIS data for Oakland East and Oakland West U.S.G.S. 7.5' topographic maps, accessed by Digital Mapping Solutions, May 4.

U.S. Fish and Wildlife Service (USFWS), Sacramento Office, 2017. GIS data on Critical Habitat Units, accessed by Digital Mapping Solutions, May 10.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	❒	■	❒	❒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	❒	■	❒	❒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	❒	❒	❒	■
d) Disturb any human remains, including those interred outside of formal cemeteries?	❒	❒	❒	■

IMPACT EVALUATION

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Potentially Significant Unless Mitigation Incorporated

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources), it generally must be 50 years or older. Under CEQA, historical resources can include pre-European contact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts.

To identify historical resources on the project site, and to assess the potential for encountering such resources during construction (i.e., subsurface archaeological deposits), background research was conducted for this Initial Study. This background research consisted of a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park, and a review of historical maps.[6]

The records search at the NWIC was conducted on March 17, 2017, and included a review of archaeological site location information and a review of the State of California Office of Historic Preservation (OHP) *Directory of Properties in the Historic Property Data File* (April 5, 2012). The NWIC includes information on Native American site locations for Alameda County. The *Directory of Properties* includes listings for the National Register of Historic Places, National Historic Landmarks, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest. The NWIC records search did not identify recorded historical resources on or immediately adjacent to the project site.

A review of historical maps published between 1857 and 1949 indicates that the project site sits on filled marshland that historically was characterized by a series of sloughs and salt marshes. The project site was filled circa 1918. Due to the subsurface conditions of the project site, characterized by fill and Bay Mud, there is a low potential for encountering pre-contact, Native American archaeological deposits during construction. There is a potential for identifying pre-1918 transportation-related features during construction, including railroad tracks, spurs, and pier remnants. Such features, if present within the area of project ground disturbance, would need to be evaluated by an archaeologist to determine if they qualify as historical resources under CEQA.

The College of Alameda campus was constructed circa 1970 and does not appear to have important historical associations that would qualify it for listing in the California Register of Historical Resources, nor does it otherwise qualify as a historical resource as defined in CEQA Guidelines Section 15064.5

Based on the significance criteria identified above, the project would have a significant impact on the environment if ground-disturbing activities would cause a substantial adverse change in the significance of a historical resource. A substantial adverse change in the significance of a historical resource would occur

[6] The NWIC is an affiliate of the State of California Office of Historic Preservation (OHP) and is the official state repository of cultural resources records and reports for Alameda County.

from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)).

Impact CULTURAL-1: The project could affect previously unidentified archaeological deposits, thereby causing a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. (PS)

Mitigation Measure CULTURAL-1: The Peralta Community College District shall inform its contractor(s) of the sensitivity of the project site for archaeological deposits. The District shall verify that the following directive has been included in the appropriate construction documents:

"If archaeological deposits are discovered during project activities, all work within 50 feet of the discovery shall be redirected. The District shall contact a qualified archaeologist to assess the situation and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Archaeological materials that may be encountered include historical materials, such as wood, stone, or concrete footings, walls, and other structural remains including dock remnants. Although not anticipated, prehistoric archaeological materials may be mixed within fill underlying the project site. Prehistoric archaeological materials include obsidian or chert flaked-stone tools (e.g., projectile points, knives, choppers) or toolmaking debris; shellfish remains; faunal bones; and stone-milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains."

With implementation of the above mitigation measure, the potential impact on historical and archaeological resources would be reduced to a less-than-significant level. (LTS)

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

Potentially Significant Unless Mitigation Incorporated

In accordance with CEQA Guidelines Section 15064.5(c)), if the project would affect an archaeological deposit, the lead agency must first determine whether the deposit is a "historical resource" (see CEQA Guidelines Section 15064.5(a)). If the deposit is not a historical resource, the lead agency must determine if the deposit is a "unique archaeological resource."

As described under Item (a) above, background research was done to identify archaeological deposits—and the potential for encountering such deposits—including those that qualify as archaeological resources under CEQA. This background research determined that there are no recorded archaeological resources on the project site, although there is a potential for encountering subsurface archaeological deposits during construction.

Based on the significance criteria identified above, the project would have a significant impact on the environment if ground-disturbing activities would cause a substantial adverse change in the significance of a historical or archaeological resource. A substantial adverse change in the significance of an archaeological resource would occur from its demolition, destruction, relocation, or alteration such that the

significance of the resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)). For the current project, the significance of a historical resource would be materially impaired if ground disturbance would alter in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources.

Impact CULTURAL-2: The project could affect previously unidentified archaeological deposits, thereby causing a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5. (PS)

Mitigation Measure CULTURAL-2: Implement Mitigation Measure CULTURAL-1. (LTS)

With implementation of the above mitigation measure, the potential impact on archaeological resources would be reduced to a less-than-significant level.

c) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

No Impact

The University of California Museum of Paleontology (UCMP) fossil locality database and geologic information were reviewed on May 1, 2017, to assess potential impacts on paleontological resources (fossils) from the project. The UCMP database does not indicate fossils recorded at this location. Geotechnical borings indicate that the College of Alameda campus is underlain by approximately 3 feet of artificial fill, which overlies approximately 14 feet of Holocene-age Bay Mud (Jensen-Van Lienden Associates, Inc., 2009). There is a low potential for encountering significant paleontological resources (fossils) or unique geologic features in artificial fill or Holocene Bay Mud due to their disturbed nature and recent age. Project ground-disturbing activities would not likely extend to sufficient depth to disturb underlying geologic units with the potential to contain fossils.

The project would therefore have no impact on unique paleontological resources or geologic features.

d) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

No Impact

Pre-European contact archaeological sites in the Bay Area are known to contain Native American skeletal remains. Background research conducted for this Initial Study at the NWIC (see discussion under Item (a) above) did not identify recorded Native American skeletal or cremated remains at or adjacent to the project site.

Although no human remains have been identified within the project site, there is a remote possibility of encountering disarticulated remains in redeposited artificial fill or underlying the Bay Mud, either in isolation or with pre-European contact archaeological deposits that may have been buried during early and mid-Holocene sea level rise. Such remains could be uncovered during project ground-disturbing activities.

In the event that human remains are identified during project construction, in accordance with the California Native American Graves Protection and Repatriation Act of 2001 (Cal. Health & Safety Code, §8010, *et seq.*), Section 7050.5 of the California Health and Safety Code, and Section 5097.98 of the Public Resources Code would apply, as appropriate. With these regulations in place, no impact on human remains is anticipated, and no mitigation is necessary.

REFERENCES

California Office of Historic Preservation, 2012, *Directory of Properties in the Historic Property Data File*.

California Office of Historic Preservation, March 17, 2017, Northwest Information Center (NWIC) of the California Historical Resources Information System, review of various records, reports, and historical maps (1857-1949).

Jensen-Van Lienden Associates, Inc., 2009. *Geotechnical Study, Two New Science Buildings, College of Alameda, 555 Ralph Appezato Memorial Parkway, Alameda, California*, October 26.

University of California Museum of Paleontology (UCMP), UCMP Fossil Locality Database, http://ucmpdb.berkeley.edu/, accessed May 1, 2017.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VI.	GEOLOGY AND SOILS. Would the project:				
	a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	❒	❒	■	❒
	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 risks to life or property?	❒	❒	■	❒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	❒	❒	❒	■

The information presented in this section is based on data and findings provided in the geotechnical study prepared by Jensen-Van Lienden Associates, Inc. (2009) for the College of Alameda campus, unless otherwise noted. The project site is located within the central portion of the Coast Ranges geomorphic province, which includes numerous active faults identified by the California Geological Survey (CGS) under the Alquist-Priolo Earthquake Fault Zoning Act. CGS defines an active fault as one that has ruptured during the Holocene Epoch (i.e., the last 11,000 years). The probability of one or more large earthquakes (magnitude 6.7 or greater) occurring in the Bay Area between 2014 and 2044 is about 72 percent (Field, E.H. and the 2014 Working Group on California Earthquake Probabilities, 2015). The probabilities of a large earthquake occurring along an active fault segment near the project site are summarized in Table 10. Potential impacts associated with seismic activity at the project site, including fault rupture, ground shaking, ground failure, liquefaction, and landslides, are discussed below.

TABLE 10 ACTIVE FAULTS NEAR PROJECT SITE

Fault Name	Location Relative to Project Site	Probability of Large Earthquake
Hayward Fault	4.7 miles northeast	13.2%
Calaveras Fault	13.7 miles northeast	7.0%
Concord-Green Valley Fault	17.8 miles northeast	3.3%
San Andreas Fault	13.9 miles southwest	6.2%

Note: The probability of a large earthquake (magnitude 6.7 or greater) was estimated between 2014 and 2044.
Source: Field, E.H. and the 2014 Working Group on California Earthquake Probabilities, 2015.

CGS has mapped Seismic Hazard Zones that delineate areas susceptible to liquefaction and/or landslides that require additional investigation to determine the extent and magnitude of potential ground failure. According to CGS, the project site is located within a Seismic Hazard Zone for liquefaction (CGS, 2003).

Construction plans for new buildings at community colleges must be submitted to the California Division of State Architect (DSA) for review. The DSA ensures that construction plans are, at a minimum, in compliance with 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. The project design and construction are required to conform with, or exceed, current best standards for earthquake resistant construction in accordance with the 2016 California Building Code and with the generally accepted standards of geotechnical practice for seismic design in Northern California. The 2016 California Building Code also requires that a site-specific geotechnical investigation report be prepared by a licensed

professional for proposed developments of one or more buildings greater than 4,000 square feet to evaluate geologic and seismic hazards, such as the proposed project. The purpose of a site-specific geotechnical investigation is to identify seismic and geologic conditions that require project mitigation, such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. Requirements for the geotechnical investigation are presented in Chapter 16 "Structural Design" and Chapter 18 "Soils and Foundation" of the 2016 California Building Code. The DSA may waive the requirements of a site-specific geotechnical investigation based the results and recommendations from studies conducted on sites in the immediate vicinity of the project and of similar soil composition to the project site. Therefore, the DSA may consider the findings and recommendations of the geotechnical study prepared by Jensen-Van Lienden Associates, Inc. (2009) for the College of Alameda campus sufficient to address geologic hazards on the project site.

The Field Act, contained in Education Code Sections 17280-17317 and 80030-81149, adds additional seismic safety requirements for California schools and community colleges. The Field Act includes requirements for seismic design standards, plan review, construction inspections, and testing, which is overseen by DSA through plan review, permitting, and inspection of schools under construction.

IMPACT EVALUATION

a) *Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

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

Less Than Significant Impact

Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. Surface rupture generally occurs along an existing (usually active) fault trace. Areas susceptible to surface fault rupture are delineated by the CGS Alquist-Priolo Earthquake Fault Zones and require specific geological investigations prior to 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 a mapped Alquist-Priolo Earthquake Fault Zone (CGS, 2003); 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 Impact

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 scale is the most commonly used scale to measure the subjective effects of earthquake intensity. It uses values ranging from I to XII.

The Association of Bay Area Governments (ABAG) and the United States Geological Survey (USGS) have mapped the likely shaking intensities in the Bay Area that would have a 10 percent chance of occurring in any 50-year period (ABAG and USGS, 2013). Based on the ABAG and USGS mapping, the project site is in an area susceptible to very strong ground shaking (VIII on the Modified Mercalli Intensity scale), which would result in negligible damage to well-designed and constructed buildings.

The risk of ground shaking impacts is reduced through adherence to the design and materials standards set forth in the 2016 California Building Code, DSA review and approval of plans, specifications and construction in accordance with the requirements of the Field Act, as well as site-specific recommendations from a geotechnical investigation report approved by the DSA. With adherence to these existing regulations, the project's risk of a ground shaking impact that would expose people or structures to substantial adverse effects would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact

The potential for different types of ground failure to occur at the project site during a seismic event is discussed below.

Liquefaction

Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. During ground shaking, these soils lose strength and acquire a "mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie relatively close to the ground surface. However, loose sands that contain a significant amount of fines (silt and clay) may also liquefy. As discussed above, the project site is located within a Seismic Hazard Zone for liquefaction.

Based on the geotechnical study prepared for the College of Alameda campus (Jensen-Van Lienden Associates, Inc., 2009), the project site is underlain by approximately 3 feet of fill material that overlays approximately 14 feet of soft clay known as Bay Mud. There is a loose sand layer located directly below the bottom or the Bay Mud at about 17 feet below ground surface that is likely to liquefy during a moderate earthquake. Liquefaction of the loose sand layer may cause differential settlement.

The geotechnical study identified a dense sand layer located about 20 feet below the ground surface at the project site that is not susceptible to liquefaction. Therefore, the study recommends that new buildings be supported on driven pile foundations that develop their support in the dense sand layer below the bottom of the Bay Mud and loose sand layer. The pile foundations for the buildings would have to be designed for down-drag loads that would act on the upper part of the pile as a result of settlement due to liquefaction of the loose sand layer or consolidation of the Bay Mud. Piles supported in the dense sand layer would not be vulnerable to settlement.

Final grading, foundation, and building plans must be designed in accordance with the 2016 California Building Code and site-specific recommendations from a geotechnical investigation report approved by the DSA. These designs would include measures that would address, as necessary, the potential for differential settlement related to liquefaction. Therefore, compliance with existing regulations would ensure that the potential impacts on people or structures associated with liquefaction would be less than significant.

Lateral Spreading

Lateral spreading is a phenomenon in which surficial soil displaces along a gently sloping ground surface as the result of liquefaction in a subsurface layer. Upon reaching mobilization, the surficial soils are transported downslope or in the direction of a free face by earthquake and gravitational forces. As discussed above, final grading, foundation, and building plans must be designed in accordance with the 2016 California Building Code and site-specific recommendations from a geotechnical investigation report approved by the DSA. These designs would include measures that would address, as necessary, the potential for differential settlement related to liquefaction. Therefore, compliance with existing regulations and the Field Act would ensure that the potential impacts on people or structures associated with lateral spreading would be less than significant.

Surface Settlement

Settlement can occur when non-saturated, cohesionless soil is densified by earthquake vibrations. The geotechnical study found that liquefaction of the loose sand layer beneath the project site could result in about 1 to 1.5 inches of settlement. As discussed above, the study recommends that new buildings be supported on driven pile foundations that develop their support in the dense sand layer below the bottom of the Bay Mud and loose sand layer. As discussed above, final grading, foundation, and building plans must be designed in accordance with the 2016 California Building Code and site-specific recommendations from a geotechnical investigation report approved by the DSA. Compliance with existing regulations and the Field Act would ensure that the potential impacts on people or structures associated with surface settlement would be less than significant.

iv) Landslides?

Less Than Significant Impact

Seismically induced landslides occur as the rapid movement of large masses of soil on unstable slopes during an earthquake. The project site is relatively flat and therefore not likely susceptible to landslide hazards. The Seismic Hazard Zones mapped by CGS delineate areas susceptible to seismically induced landslides that require additional investigation to determine the extent and magnitude of potential ground failure. According to CGS (2003), the project site is not located within a Seismic Hazard Zone for seismically induced landslides. Therefore, the project would have a less-than-significant impact related to seismically induced landslides.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact

Soil erosion, which is discussed in detail in Section IX, Hydrology and Water Quality, could occur during project grading and construction. As described in Section IX, compliance with the Construction General Permit, including the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), would reduce the potential impacts related to erosion of topsoil to a less-than-significant level.

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 discussed under Item (a) above, the soils on the project site are susceptible to liquefaction, lateral spreading, and seismically induced settlement, but they are not susceptible to landslides. The project's required compliance with existing regulations and the Field Act would ensure that potential risks to people and structures as a result of unstable soils are less than significant.

Subsidence

Subsidence or collapse can result from the removal of subsurface water, resulting in either catastrophic or gradual depression of the surface elevation of the project site. The only removal of subsurface water that may occur as part of the project is dewatering of shallow excavations during construction. The dewatering of shallow excavations does not cause significant ground subsidence or collapse. Therefore, this potential impact is less than significant.

Consolidation

Consolidation of soils is a process by which the soil volume decreases as water is expelled from saturated soils under static loads. As the water moves out from the pore space of the soil, the solid particles realign into a denser configuration that results in settlement. Consolidation typically occurs as a result of new buildings or fill materials being placed over compressible soils. The Bay Mud underlying the project site is highly compressible and would be vulnerable to consolidation. According to the geotechnical study for the College of Alameda campus, each foot of new fill placed over a continuous area of about 40 feet in diameter would result in 2 to 3 inches of settlement due to primary consolidation of the Bay Mud. Approximately half the settlement would be expected to occur within the first five years. Piles supported in the dense sand layer beneath the Bay Mud would not be vulnerable to settlement.

As required by the 2016 California Building Code, the final grading, foundation, and building plans must be designed in accordance with site-specific recommendations from a geotechnical investigation report approved by the DSA. Therefore, compliance with existing regulations and the Field Act would ensure that potential impacts associated with consolidation would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact

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.

As indicated in the geotechnical study, the project site is underlain by approximately 3 feet of fill materials consisting of silty clay and sandy clay. Because clay could be expansive, the project site soils could be susceptible to expansion.

As required by the 2016 California Building Code, the final grading, foundation, and building plans must be designed in accordance with site-specific recommendations from a geotechnical investigation report Approved by the DSA. These designs would include measures to either (1) excavate the existing fill materials that are susceptible to expansion and either replace the materials with engineered fill or further evaluate the possible reuse of the materials as engineered fill, or (2) design foundations and other improvements to withstand the shrinking and swelling cycles of the soils without causing significant damage. Therefore, compliance with existing regulations and the Field Act would ensure that potential impacts associated with expansive soils would be less than significant.

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?

No Impact

The project would be served by a wastewater collection and conveyance system maintained by the City of Alameda. Wastewater from the City's collection system is conveyed to the East Bay Municipal Utility District (EBMUD) wastewater interceptor system and is treated at EBMUD's wastewater treatment plant. Development of the proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would have no impact related to septic tanks or alternative waste water disposal systems.

REFERENCES

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	GREENHOUSE GAS EMISSIONS. 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?	❒	❒	■	❒

Climate change refers to change in the Earth's weather patterns, including the rise in temperature due to an increase in heat-trapping greenhouse gases (GHGs) in the atmosphere. According to the Bay Area Air Quality Management District (BAAQMD) (2017), some of the potential effects of increased GHG emissions and the associated climate change may include loss in snow pack (affecting water supply), sea level rise, more frequent extreme weather events, more large forest fires, and more drought years. In addition, climate change may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health.

In 2006, the California State Legislature passed the California Global Warming Solutions Act (Assembly Bill [AB] 32), which requires the California Air Resources Board (CARB) to develop and implement regulatory and market mechanisms that will reduce GHG emissions to 1990 levels by 2020. In 2016, the State Legislature adopted Senate Bill (SB) 32, which requires further reduction of GHG emissions to 40 percent below the 1990 level by 2030. In addition, Executive Order S-3-05 set a GHG reduction goal of 80 percent below 1990 levels by 2050. In 2008, the City of Alameda adopted the Local Action Plan for Climate Protection (LAPCP), which identifies initiatives to reduce citywide GHG emissions by 25 percent below 2005 baseline levels by 2020. The LAPCP initiatives satisfy the requirements for achieving the GHG reductions goals of AB 32 and provide a framework to achieve the GHG reduction consistent with SB 32 and Executive Order S-3-05.

The primary GHG emissions of concern are carbon dioxide, methane, and nitrous oxide. Other GHGs of concern include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, but their contribution to climate change is less than 1 percent of the total GHGs that are well mixed (i.e., that have atmospheric lifetimes long enough to be homogeneously mixed in the troposphere) (Intergovernmental Panel on Climate Change, 2013). Each GHG has a different global warming potential. For instance, methane traps about 21 times more heat per molecule than carbon dioxide. As a result, emissions of GHGs are reported in metric tons of carbon dioxide equivalents (CO_2e), where each GHG is weighted by its global warming potential relative to carbon dioxide. Carbon dioxide emissions dominate the GHG inventory in the San Francisco Bay Area Air Basin (SFBAAB), accounting for more than 90 percent of the total CO_2e emissions reported.

In 2010, the BAAQMD developed and adopted GHG thresholds of significance that were incorporated into the BAAQMD's 2017 *CEQA Air Quality Guidelines*. The GHG thresholds are designed to help lead agencies in the SFBAAB evaluate potential environmental impacts from GHG emissions for new projects and meet GHG emission reduction goals, such as those contained in AB 32. Therefore, the BAAQMD's thresholds of significance were used in this CEQA analysis.

IMPACT EVALUATION

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

The BAAQMD recommends using the most current version of the California Emissions Estimator Model (CalEEMod versions 2016.3.1) to estimate construction and operation emissions of GHGs for a proposed project. CalEEMod uses widely accepted models for emission estimates combined with appropriate default data for a variety of land use projects that can be used if site-specific information is not available. The default data (e.g., emission factors) are supported by substantial evidence provided by regulatory agencies and a combination of statewide and regional surveys of existing land uses and resources. The primary input data used to estimate GHG emissions associated with construction and operation of the proposed project are summarized in Table 11. A copy of the CalEEMod report for the proposed project, which summarizes the input parameters, assumptions, and findings, is provided in Appendix B.

TABLE 11 SUMMARY OF LAND USE INPUT PARAMETERS FOR CALEEMOD ESTIMATE OF PROJECT GHG EMISSIONS

Land Use Type	CalEEMod Land Use Type	Units	Unit Amount
Educational	Junior College (Two-Year)	Square Feet	53,000

Notes: The project footprint would be about 1.97 acres.
Source: CalEEMod (Appendix B).

Project construction is scheduled to begin in Spring 2018 and last approximately 17 months. Based on the construction schedule, project operation was assumed to begin as early as 2020. Additional project-specific information used to calculate GHG emissions in CalEEMod, including changes to default data, is summarized in Table 12.

The BAAQMD does not recommend a threshold of significance for GHG emissions during construction because there is not sufficient evidence to determine a level at which temporary construction emissions are significant (BAAQMD, 2009). A construction contractor has no incentive to waste fuel during construction and, therefore, it is generally assumed that GHG emissions during construction would be minimized to the maximum extent feasible. Furthermore, the idling times for off-road construction equipment would be limited to a maximum idling time to 5 minutes, as required by the CARB's Airborne Toxic Control Measure to reduce emissions from diesel-fueled vehicles (Title 13, Section 2485 of California Code of Regulations). Therefore, GHG emissions during project construction would have a less-than-significant impact on the environment.

TABLE 12 SUMMARY OF PROJECT-SPECIFIC ASSUMPTIONS FOR CALEEMOD ESTIMATE OF PROJECT GHG EMISSIONS

CalEEMod Input Category	Assumptions and Changes to Default Data
Construction Phase	The default construction duration was modified to about 17 months with work scheduled to begin in Spring 2018. Since there are no existing buildings to be removed from the project site, no demolition phase was included. A pile driving phase was added.
Material Movement	10,000 cubic yards of soil import is anticipated during the grading phase.
Haul Trips	The default haul trips were modified to a total 556 haul trips based on the anticipated soil import volume and assuming 18 cubic yards of soil import per truck load.
Vendor Trips	The default vendor trip rate during building construction was modified to 5.67 trips per day based on anticipated concrete deliveries (total of 250 trips over 10 days during the course of the project) and non-concrete deliveries (5 trips per day).
Utility Provider	Based on review of Pacific Gas & Electric Company's *Greenhouse Gas Emission Factors: Guidance for PG&E Customers* (PG&E, 2015), the default carbon dioxide (CO_2) intensity factor reported for 2008 was updated to the most recent CO_2 intensity factor verified by a third party in 2013.
Vehicle Trips	No additional traffic would be generated by the project.
Wastewater	Based on the design of EBMUD's wastewater treatment plant, emissions estimated from wastewater treatment assumed a process with 100% aerobic biodegradation and 100% anaerobic digestion with cogeneration.

Notes: Default CalEEMod data used for all other parameters not described.
Source: CalEEMod (Appendix B).

The total average annual CO_2e emissions for project operation are compared to the BAAQMD's thresholds of significance in Table 13. The estimated unmitigated CO_2e emissions were below the BAAQMD's thresholds of significance for total CO_2e emissions. Therefore, GHG emissions from operation of the proposed project would have a less-than-significant impact on the environment.

TABLE 13 SUMMARY OF AVERAGE GHG EMISSIONS FROM PROJECT OPERATION

Emission Source	CO_2e (MT/year)
Area	0.1
Energy	206.2
Waste	598.2
Water	36.8
Total Project Emissions	841
Threshold of Significance	1,100
Threshold Exceedance?	No

Note: MT = metric tons
Source: CalEEMod (Appendix B).

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 BAAQMD's threshold of significance was designed to ensure compliance with the state's AB 32 GHG reduction goals, as set forth in the CARB's Climate Change Scoping Plan. Since the GHG emissions from the proposed project would be below the BAAQMD's threshold of significance (see Table 13), it can be assumed that the project would be consistent, and not in fundamental conflict, with the AB 32 Scoping Plan. Furthermore, the project would not conflict with the

GHG reduction initiatives identified in the City of Alameda's LAPCP. For example, because the project would not result in a net increase in traffic, the project would not conflict with any of the transportation initiatives under the LAPCP. The remaining LAPCP initiatives, which related to land use, energy, waste and recycling, and community outreach and education, are citywide initiatives that do not apply to individual projects. Therefore, the proposed project would have a less-than-significant impact on applicable plans, policies, or regulations related to GHG emission reductions in the SFBAAB.

REFERENCES

Bay Area Air Quality Management District (BAAQMD), 2017. *CEQA Air Quality Guidelines*, May 9.

Bay Area Air Quality Management District (BAAQMD), 2009. Revised Draft Options and Justification Report, California Environmental Act Thresholds of Significance, October.

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	❐	❐	■	❐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	❐	❐	■	❐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	❐	❐	■	❐
d)	Be located on a site 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?	❐	❐	❐	■

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	❒	❒	❒	■
f)	For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	❒	❒	❒	■
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	❒	❒	■	❒
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	❒	❒	❒	■

IMPACT EVALUATION

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

Project construction activities are expected to involve the routine transport, use, and disposal of hazardous materials (e.g., motor fuels, paints, oils, and grease) that could pose a significant threat to human health or the environment if not properly managed. Although small amounts of these materials would be transported, used, and disposed of during project construction, these materials are typically used in construction projects and are not considered acutely hazardous. Workers who handle hazardous materials are required to adhere to health and safety requirements enforced by the federal Occupational Health and Safety Administration (OSHA) and California Division of Occupational Safety and Health. Hazardous materials must be transported to and from the project site in accordance with Resource Conservation and Recovery Act (RCRA) and U.S. Department of Transportation regulations, and also disposed of in accordance with RCRA regulations at a facility that is permitted to accept the waste. Because compliance with existing regulations is mandatory, project construction is not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.

During project operation, it is anticipated that the project would involve the use of hazardous materials that are typical of school facilities (e.g., cleaning products and paints). These would be used in small and localized amounts. As described above, the routine transport, use, and disposal of hazardous materials are subject to federal and state regulations. On the local level, the Alameda County Department of Environmental Health is the Certified Unified Program Agency (CUPA) that implements regulatory programs for sites that routinely use relatively large quantities of hazardous materials to ensure the safe

storage, management, and disposal of such materials in accordance with the Unified Program. While the project is not expected to handle large quantities of hazardous materials, compliance with existing laws, regulations, and CUPA programs, as applicable, would be mandatory; therefore, project operations are not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.

As a result, impacts related to the routine transport, use, or disposal of hazardous materials during project construction and operation would be less than significant.

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

Potential accident conditions resulting in the release of hazardous materials used during general project construction and operation activities, as well as potential upset conditions involving the disturbance of the Marsh Crust, are discussed below.

Accidental Hazardous Materials Releases during Project Construction and Operation

The accidental release of hazardous materials during project construction and operation activities could pose a significant threat to human health or the environment. As described under Item (a) above, the use of hazardous materials would be subject to existing hazardous materials laws, regulations, and CUPA programs. Adherence to these standards would also reduce the potential for an accidental release. In addition, a SWPPP must be prepared and implemented during project construction for coverage under the Construction General Permit, in accordance with the requirements of the State Water Resources Control Board. As detailed in Section IX, Hydrology and Water Quality, the SWPPP would require implementation of BMPs for hazardous materials storage and soil stockpiles, inspections, maintenance, training of employees, and containment of releases to prevent runoff into existing stormwater collection systems or waterways. Because compliance with existing regulations is mandatory, accidental hazardous materials releases during construction and operation would have a less-than-significant impact on human health and/or the environment.

Disturbance of Marsh Crust

Before 1900, the areas now occupied by Alameda Point and Bayport were tidal marshlands. In the late 1800s and early 1900s, a layer of sediment contaminated with petroleum-related substances was deposited across the tidal marshlands. These petroleum-related substances came from nearby industries. This layer of contamination, also known as the Marsh Crust, may pose an unacceptable risk to human health and the environment if excavated and brought to the surface and handled in an uncontrolled manner. In accordance with City of Alameda General Ordinance No. 2824 (the Marsh Crust Ordinance), any excavations within the Marsh Crust are subject to notification and permit requirements.

Based on review of the City's Marsh Crust Ordinance, the project site is not mapped within the Marsh Crust area. Because the project is not expected to encounter the Marsh Crust, the project would not create a significant hazard due to residual contamination from the Marsh Crust.

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 handling or emission of hazardous or acutely hazardous materials near schools must consider potential health effects on children, who are considered sensitive receptors. The College of Alameda is not considered a sensitive receptor because it provides education programs for adults. A review of public mapping directories (Google, 2017) and federal records for public and private schools with grades ranging from pre-kindergarten to 12th grade (National Center for Education Statistics, 2017) indicates that there are three schools within 0.25-mile of the project site: the Alameda Science and Technology Institute, Head Start Center, and Peter Pan School. The Alameda Science and Technology Institute is an early-college high school located on the west side of the College of Alameda campus. The Head Start Center is a childcare service operated by Alameda Family Services on the west side of the campus. The Peter Pan School is a private preschool located about 0.18 mile northeast of the proposed building. The only plausible exposure pathway of concern for children at nearby schools is through the inhalation of air contaminants, such as particulate matter.

As discussed in Section III, Air Quality, sources of hazardous emissions during project construction would include diesel particulate matter from vehicle exhaust; there would be no sources of hazardous emissions during project operation. Based on the air dispersion modeling and a health risk assessment performed for the air quality analysis, the project's construction emissions would have less-than-significant impacts on nearby residential receptors. The project's construction emissions would also have a less-than-significant impact on the nearest school located about 650 feet west of the project site in the predominant upwind direction. Furthermore, as discussed under Item (a) above, hazardous materials used during construction and operation would be managed in accordance with applicable laws and regulations. Therefore, the handling or emission of hazardous or acutely hazardous materials during project construction and operation would have a less-than-significant impact on nearby schools.

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?

No Impact

The provisions of Government Code Section 65962.5 require the State Water Resources Control Board, Department of Toxic Substances Control, California Department of Health Services, and California Department of Resources Recycling and Recovery to submit information to the California Environmental Protection Agency pertaining to sites that were associated with solid waste disposal, hazardous waste disposal, and/or hazardous materials releases. Additionally, the San Francisco Bay Regional Water Quality Control Board, the local regional board of the State Water Resources Control Board, can act as a responsible agency to provide oversight of sites where the quality of groundwater or surface waters is

threatened. The compilation of hazardous materials release sites that meet criteria specified in Section 65962.5 of the California Government Code is known as the Cortese List. There are currently no hazardous materials release sites on the project site that meet the criteria for inclusion on the Cortese List. Therefore, the project would have no impact related to development on a hazardous materials release site included on the Cortese List.

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

No Impact

The project site is located approximately 4 miles northwest of the nearest public use airport, Oakland International Airport.[7] The project site is not located within the airport influence area (Alameda County Airport Land Use Commission, 2010); therefore, project structures would not be considered a potential obstruction to aircraft that use Oakland International Airport. Furthermore, the project would not result in a substantial increase in bird populations, solar glare, misleading lighting, or other visual impairments in proximity to the airport's approach and departure zones. Therefore, the project would have no impact on the navigable airspace of public use airports.

f) For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact

Based on review of federal airport records, there are no private airstrips within 2 miles of the project site (Federal Aviation Administration, 2017). Therefore, the project would have no impact on the navigable airspace of nearby private airstrips.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact

The project would affect the existing on-site Campus Loop Road, which permits emergency vehicle access along the east side of the campus. The project would remove the "loop" and create a two-way service and emergency vehicle access approaching the building from both the north and the south. On the north side of the building, the existing road would allow emergency vehicle access to the existing turnaround area. On the south side, parallel parking would be removed and the road would become a two-way emergency vehicle access lane. A turnaround area that conforms to the Alameda Fire Department's requirements would be provided. Because the project would not generate a net increase in traffic, the project would not be expected to impair implementation of or interfere with any emergency response or evacuation plans in the surrounding community. Based on the project design, the project would have a less-than-significant impact on the implementation of any emergency response and evacuation plans.

[7] Nimitz Field, also known as the Naval Air Station Alameda (NAS Alameda), located approximately 2 miles west of the project site, was closed in 1997.

h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact

The project site is surrounded by urbanized uses and is located about four miles away from the Berkeley/Oakland Hills, which is the nearest mapped wildland fire hazard area (CAL FIRE, 2008). Therefore, the project would have no impact related to wildland fire hazards.

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CAL FIRE, 2008. Alameda County Very High Fire Hazard Severity Zones in LRA. September 3.

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
	a) Violate any water quality standards or waste discharge requirements?	❒	■	❒	❒
	b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	❒	❒	■	❒

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	❒	❒	■	❒
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	❒	❒	■	❒
e)	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?	❒	❒	■	❒
f)	Otherwise substantially degrade water quality?	❒	❒	■	❒
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	❒	❒	❒	■
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	❒	❒	❒	■
i)	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding of as a result of the failure of a levee or dam?	❒	❒	❒	■
j)	Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?	❒	❒	■	❒

IMPACT EVALUATION

a) Would the project violate any water quality standards or waste discharge requirements?

Potentially Significant Unless Mitigation Incorporated

The primary water quality concern related to the project is potential degradation of stormwater runoff quality during project construction and operation. At the project site, stormwater is collected in the campus storm drainage system, which is connected to the City of Alameda's designated Northside Area stormwater drainage system that discharges into the Oakland Estuary and ultimately into San Francisco Bay. The State Water Resources Control Board has listed Central San Francisco Bay as an impaired water body for pollutants including pesticides, heavy metals, dioxins, furans, polychlorinated biphenyls (PCBs), polybrominated diphenyl ethers, and trash (State Water Resources Control Board, 2012). Total Maximum Daily Loads (TMDLs) have been established for Central San Francisco Bay that describe the maximum amount of a pollutant that the water body can receive while still meeting water quality standards. Once a

TMDL has been developed, it is implemented by allocating waste loads via National Pollutant Discharge Elimination System (NPDES) permits.

Stormwater runoff quality is regulated by the 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 overseen by the San Francisco Bay Regional Water Quality Control Board (RWQCB). The Alameda Countywide Clean Water Program assists cities, towns, and unincorporated areas with coordination and consistency of approaches across the county in implementing the RWQCB requirements.

Impact HYDROLOGY-1: Stormwater runoff and dewatering during project construction could violate water quality standards or discharge requirements. (PS)

Project construction activities would involve site preparation, grading, and excavation of soil, which could result in temporary erosion and movement of sediments into the storm drain system, particularly during precipitation events. The potential for chemical releases is present at most construction sites due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. Once released, these hazardous materials could be transported to nearby surface waterways in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. The release of sediments and other pollutants during construction and demolition could adversely affect water quality in receiving waters.

Because the proposed project would involve construction activities that would disturb over 1 acre of land, the project would be required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (Construction General Permit). Under the Construction General Permit, preparation of a SWPPP for the site would be required. The SWPPP would include BMPs to prevent the degradation of stormwater quality, including operating procedures and practices to control site runoff, measures to reduce the risk of spills or leaks from reaching the receiving waters, and procedures to address minor spills of hazardous materials. For example, construction site operators must store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed). In addition, as required by the Construction General Permit, equipment and materials for cleanup of spills must be available on the site, and spills and leaks must be cleaned up immediately and disposed of properly.

Groundwater at the project site is reportedly as shallow as 5 feet below ground surface (Jensen-Van Lienden Associates, Inc., 2009). The depth to groundwater may fluctuate in response to seasonal changes, prolonged rainfall, changes in surface topography, and other factors. Depending on the depths of excavations performed during construction activities, temporary dewatering of excavations might be required. The improper management and discharge of dewatering effluent into the storm drainage system could adversely affect water quality in the receiving waters as contaminants and sediment may be present in the dewatering effluent.

Implementation of the following mitigation measure would ensure that project design is in compliance with the NPDES permit stormwater requirements and reduce potential construction phase water quality and discharge impacts to a less-than-significant level.

Mitigation Measure HYDROLOGY-1: Consistent with the requirements of the statewide Construction General Permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address stormwater runoff during project construction.

The SWPPP shall be prepared by a Qualified SWPPP Developer in accordance with the requirements of the Construction General Permit and 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.

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, 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 and maintenance activities. (LTS)

Impact HYDROLOGY-2: Stormwater runoff during project operation could violate water quality standards or discharge requirements. (PS)

Runoff from new landscaped areas on the project site may contain residual pesticides and nutrients. Consequently, the long-term degradation of runoff water quality from project operation could adversely affect water quality in the receiving waters. Stormwater runoff during the operational phase of the project would be subject to the RWQCB's Municipal Regional Permit (MRP) under Regional Water Board Order R2-2015-0049. A Stormwater Control Plan (SCP) is required for projects, like the proposed project, that would add or replace more than 5,000 square feet of impervious surfaces. The SCP would present the design elements and implementation measures that would be used to meet MRP requirements. A Stormwater Facility Operation and Maintenance Plan would also be required, to ensure that stormwater control measures are inspected, maintained, and funded for the life of the project.

The project would also be required to comply with provision C.3 of the MRP, which requires implementation of low impact development (LID) source control, site design, and stormwater treatment for regulated projects. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preservation of undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. In accordance with provision C.3, the project proposes to construct a stormwater bioretention area to treat stormwater runoff from impervious areas on the project site.

Implementation of the following mitigation measure would ensure that the project design is in compliance with the NPDES permit stormwater requirements and reduce potential operational phase water quality and discharge impacts to a less-than-significant level.

Mitigation Measure HYDROLOGY-2: The Peralta Community College District shall fully comply with Provision C.3 of the Municipal Regional Permit. The District shall prepare and implement a

Stormwater Control Plan (SCP) for the project. At a minimum, the SCP for the project shall include the following:

1. *Low Impact Development (LID) design details incorporated into the project, including optimization of site layout, dispersal of runoff to pervious areas, and stormwater control measures.*

2. *Measures to address potential stormwater contaminants. These may include measures to cover or control potential sources of stormwater pollutants at the project site.*

3. *A Stormwater Facility Operation and Maintenance Plan for the project site. The plan shall include provisions for periodic inspection and maintenance of the storm drainage system. Persons responsible for performing and funding the requirements of this plan shall be identified. (LTS)*

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact

The project would result in an increase of impervious surfaces on the project site from about 14,000 square feet to about 42,300 square feet; however, the project would construct a stormwater bioretention area to capture stormwater runoff from the project site and enhance infiltration of stormwater to the subsurface. Therefore, the increase in impervious surfaces on the project site is not expected to interfere with groundwater recharge.

The water supply for the project would be provided by EBMUD (see discussion in Section XVII, Utilities and Service Systems). Although no use of groundwater is proposed as part of the project, some dewatering may be required during construction depending on the depths of excavations performed. This dewatering would be temporary and would focus on the uppermost shallow groundwater zone. Therefore, potential impacts related to depletion of groundwater supplies would be less than significant.

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, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact

The project would not alter the course of a stream or a river. The project would alter the existing on-site drainage patterns to direct stormwater runoff into a bioretention area on the northeast side of the project site to enhance infiltration of stormwater to the subsurface. The bioretention area would decrease the amount of stormwater runoff from the project site and thereby decrease the potential for erosion and siltation. Therefore, the potential of the project to result in substantial erosion or siltation on- or off-site associated with changing the drainage pattern of the project site would be less than significant.

d) 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact

As discussed above, the project would not alter the course of a stream or a river. The project would alter the existing on-site drainage patterns to direct stormwater runoff into a bioretention area on the northeast side of the project site to enhance infiltration of stormwater to the subsurface. The bioretention area would decrease the amount of stormwater runoff from the project site and thereby decrease the potential for flooding. Therefore, the potential of the project to result in on- or off-site flooding associated with changing the drainage pattern of the project site would be less than significant.

e) Would the project 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?

Less Than Significant Impact

As described above, the project would construct a bioretention area to minimize the amount of stormwater runoff and the potential entrainment of stormwater pollutants into the City's existing stormwater drainage system. Therefore, the potential for the project to exceed the capacity of existing or planned stormwater drainage systems or contribute additional sources of polluted runoff is considered less than significant.

f) Would the project otherwise substantially degrade water quality?

Less Than Significant Impact

No additional potential impacts on water quality are expected to result from the project, beyond those discussed above. Therefore, the potential for the project to otherwise degrade water quality would be less than significant.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact

The project does not include housing. Therefore no impact related to placement of housing in a floodplain would occur.

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact

The project site is not located within a 100-year flood hazard area as mapped the Federal Emergency Management Agency (FEMA, 2009). Therefore no impact related to the placement of structures within a floodplain would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding of as a result of the failure of a levee or dam?

No Impact

As discussed above, the project site is not located in a FEMA-designated 100-year flood hazard area and is not susceptible to flooding from levee or dam failure. Therefore, the project would have no impact related to the risk of loss, injury, or death involving flooding.

j) Would the project expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact

Mudflow

The project site and surrounding areas are flat or gently sloped, and are not located near slopes that would be subject to mudflows. Therefore, no impact associated with mudflow inundation would occur.

Seiche

A seiche is the oscillation of a body of water at its natural period. Seiches occur most frequently in enclosed or semi-enclosed basins such as lakes, bays, or harbors and may be triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunami, or tides. Coastal measurements of sea level often show seiches with amplitudes of a few centimeters and periods of a few minutes due to oscillations of the local harbor, estuary, or bay, superimposed on the normal tidal changes. Triggering forces that set off a seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. Due to the basin geometry and dimensions of San Francisco Bay, seiches pose a negligible hazard to the San Francisco Bay Area (Borrero, Jose, et al., 2006). Therefore, potential project impacts associated with seiche inundation would be less than significant.

Tsunami and Sea Level Rise

In 2013, the Coastal and Ocean Resources Working Group of the California Climate Action Team, which includes staff from many state agencies, developed the *State of California Sea-Level Rise Guidance Document* (SLR Guidance Document) in response to Governor Schwarzenegger's Executive Order S-13-08, which directed state agencies to plan for sea level rise and coastal impacts. In April 2017, the Working Group of the California Ocean Protection Council Science Advisory Team (OPC-SAT) developed *Rising Seas in California; An Update on Sea-Level Rise Science*, which provides the scientific foundation for a pending update to the SLR Guidance Document.

OPC-SAT (2017) reported the following likely ranges of sea level rise for San Francisco Bay that have about a 2-in-3 chance of containing the correct value:

- 0.3 to 0.5 feet by 2030
- 0.6 to 1.1 feet by 2050
- 1.0 to 3.4 feet by 2100

Based on review of sea level rise inundation areas mapped by the National Oceanic and Atmospheric Administration (NOAA, 2017), the project site would not be inundated by 3 feet or less of sea level rise, but the lower laying portions of the project site could be affected by 3 to 3.4 feet of sea level rise. The first floor of the proposed building, which would be 11 feet above the mean sea level, would not be affected by 3.4 feet of sea level rise. Therefore, the proposed project building would not likely be inundated by sea level rise before 2100.

The California Emergency Management Agency (2009) has mapped the project site within a tsunami inundation area. Tsunamis are long-period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Tsunamis affecting the San Francisco Bay Area would originate west of the Bay in the Pacific Ocean. A tsunami entering the Bay through the relatively narrow Golden Gate Strait would dissipate as the wave energy spreads out into the Bay (Houston, J.R. and A.W. Garcia, 1975). While the energy from a tsunami wave would not likely pose a hazard at the project site, the wave would cause inundation that could affect structures and people on the project site.

While inundation by tsunami could occur on the project site, the proposed project would not increase or exacerbate the flooding hazard, and it would not increase the number of people exposed to the hazard. Based on the rulings of the California Second District Court of Appeals (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455) and the California Supreme Court (*California Building Industry Association vs. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369), an analysis of the effects of inundation associated with sea level rise and tsunamis on the project site is not required if the project would not exacerbate the existing condition. Therefore, potential inundation of the project by sea level rise and tsunamis would not be considered a significant CEQA impact.

REFERENCES

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	LAND USE AND PLANNING. Would the project:				
	a) Physically divide an established community?	❒	❒	❒	■
	b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	❒	❒	❒	■
	c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	❒	❒	❒	■

a) Would the project physically divide an established community?

No Impact

The New Center for Liberal Arts would be constructed in an area of the College of Alameda campus that is undeveloped except for a narrow roadway and informal landscaping. No established community would be physically divided.

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact

The entire College of Alameda site, of which the project is a part, is designated in the City of Alameda General Plan as "Public/Institutional/Schools" (see Figure 13). The proposed New Center for Liberal Arts would be a part of the college and would conform to this land use designation. The project would also conform to the existing zoning for the site, which is R-4, Neighborhood Residential.

As mentioned in Chapter I, Project Description, pursuant to California Government Code Section 53094, the governing board of a school district may render city or county zoning ordinances and general plan requirements inapplicable to projects related to the provision of classroom facilities. For this project, the District plans to adopt a resolution pursuant to Government Code Section 53094 exempting the project and the campus from any zoning ordinances or regulations of the City of Alameda (where the project is located), including, without limitation, the City's Municipal Code, the City's General Plan, and related ordinances and regulations that otherwise would be applicable.

That said, the City of Alameda Zoning Ordinance allows public schools within the R-4, Neighborhood Residential zoning district and the college use conforms with the City's General Plan designation (City of Alameda, 2017a and 2017b). Chapter 6 of the City's General Plan briefly mentions the College of Alameda but does not included specific policies regarding the college (City of Alameda, 2017c).

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact

No habitat conservation plan or natural community conservation plan apply to the project site (City of Alameda, 2017d).

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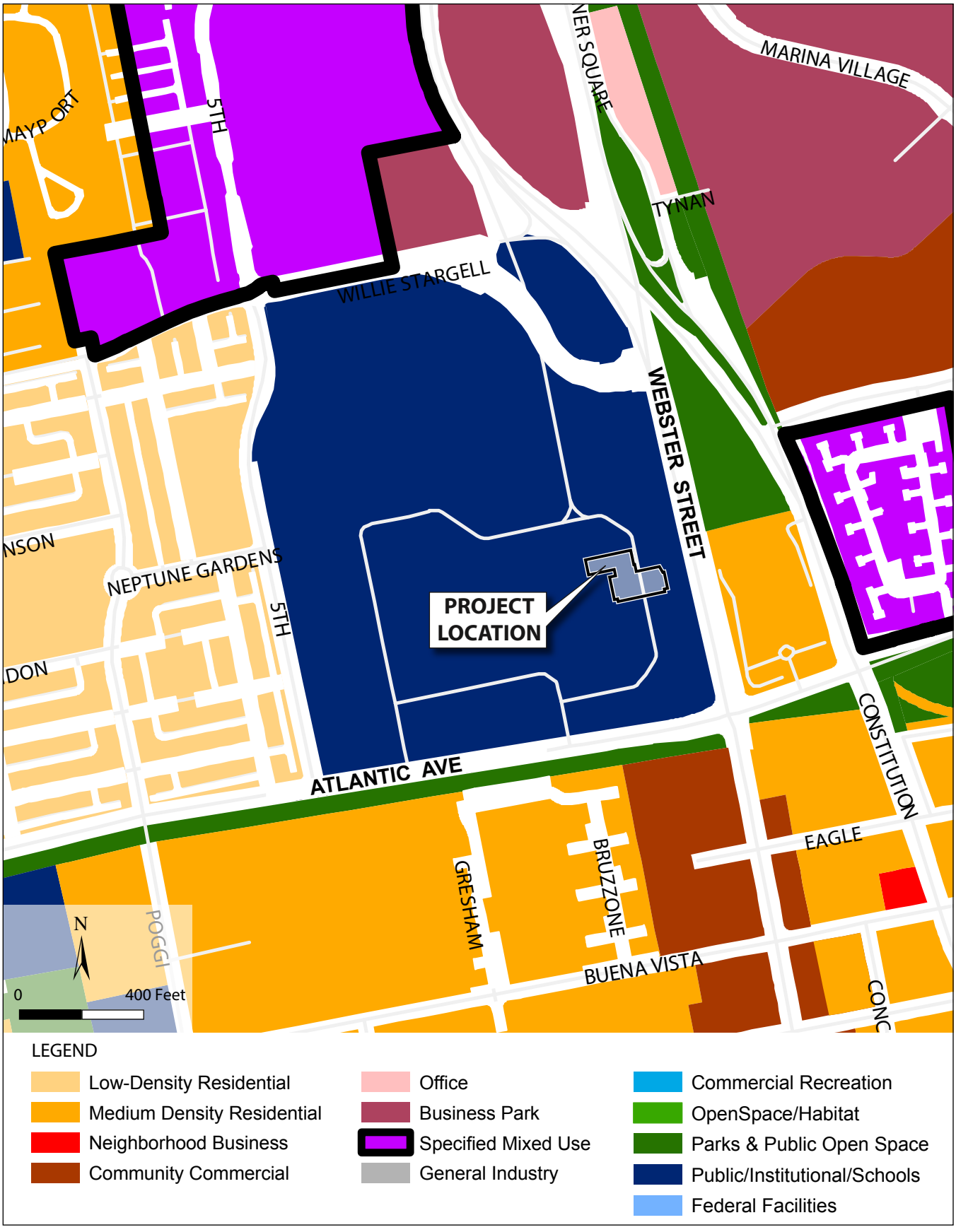

Figure 13

SOURCE: City of Alameda, 2017

CITY OF ALAMEDA GENERAL PLAN

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	MINERAL RESOURCES. 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?	❒	❒	❒	■

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 College of Alameda campus has not been identified in the City's General Plan as a site of known mineral resources (City of Alameda, 2017).

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 Item (a) above.

REFERENCES

City of Alameda, 2017. Alameda General Plan, Chapter 5. Website: https://alamedaca.gov/sites/default/files/document-files/files-inserted/general_plan_ch5.pdf, accessed June 9.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XII.	NOISE. Would the project result in:				
	a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	❒	■	❒	❒
	b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	❒	■	❒	❒

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	❒	■	❒	❒
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	❒	■	❒	❒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	❒	❒	❒	■
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	❒	❒	❒	■

BACKGROUND

Noise Concepts and Terminology

Noise is commonly defined as unwanted sound that annoys or disturbs people and can have an adverse psychological or physiological effect on human health. Sound is measured in decibels (dB), which is a logarithmic scale. Decibels describe the purely physical intensity of sound based on changes in air pressure, but they cannot accurately describe sound as perceived by the human ear since the human ear is only capable of hearing sound within a limited frequency range. For this reason, a frequency-dependent weighting system is used and monitoring results are reported in A-weighted decibels (dBA). Technical terms used to describe noise are defined in Table 14.

It should be noted that because decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. For instance, if one noise source emits a sound level of 90 dBA, and a second source is placed beside the first and also emits a sound level of 90 dBA, the combined sound level is 93 dBA, not 180 dBA. When the difference between two co-located sources of noise is 10 dBA or more, the higher noise source dominates and the lower noise source makes no perceptible difference in what people can hear or measure. For example, if the noise level is 95 dBA, and another noise source is added that produces 80 dBA noise, the noise level will still be 95 dBA.

In an unconfined space, such as outdoors, noise attenuates with distance according to the inverse square law. Noise levels at a known distance from point sources are reduced by 6 dBA for every doubling of that distance for hard surfaces such as cement or asphalt surfaces, and 7.5 dBA for every doubling of distance for soft surfaces such as undeveloped or vegetative surfaces (Caltrans, 1998). Noise levels at a known distance from line sources (e.g., roads, highways, and railroads) are reduced by 3 dBA for every doubling of the distance for hard surfaces and 4.5 dBA for every doubling of distance for soft surfaces (Caltrans, 1998). A greater decrease in noise levels can result from the presence of intervening structures or buffers.

TABLE 14 DEFINITION OF ACOUSTICAL TERMS

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound on a logarithmic scale. Sound described in decibels is usually referred to as sound or noise "level." This unit is not used in this analysis because it includes frequencies that the human ear cannot detect.
Vibration Decibel (VdB)	A unit describing the amplitude of vibration on a logarithmic scale.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. For this CEQA evaluation, L_{eq} refers to a one-hour period unless otherwise stated.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels during the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured during the night between 10:00 PM and 7:00 AM.
Maximum Sound Level (L_{max})	The maximum A-weighted sound level measured by the sound level meter over a given period of time.
L_n	The sound pressure level exceeded for n percent of the time. For n percent of the time, the fluctuating sound pressure levels are higher than the Ln level.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Peak Particle Velocity (PPV)	The maximum instantaneous peak of a vibration signal.
Root Mean Square (RMS) Velocity	The average of the squared amplitude of a vibration signal.

Source: Charles M. Salter Associates Inc., 1998. FTA, 2006.

A typical method for determining a person's subjective reaction to a new noise is by comparing it to existing conditions. The following describes the general effects of noise on people (Charles M. Salter Associates Inc., 1998):

- A change of 1 dBA cannot typically be perceived, except in carefully controlled laboratory experiments;
- A 3-dBA change is considered a just-perceivable difference;
- A minimum of a 5-dBA change is required before any noticeable change in community response is expected; and
- A 10-dBA change is subjectively perceived as approximately a doubling (or halving) in loudness.

Groundborne Vibration Concepts and Terminology

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and the sick), and vibration-sensitive equipment. Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal. PPV is appropriate for evaluating potential damage to buildings, but it is not suitable for evaluating human response to vibration because it takes the human body time to respond to vibration signals. The response of the human body to vibration is dependent on the average amplitude of a vibration. The RMS of a signal is the average of the squared amplitude of the signal and is more appropriate for evaluating human response to vibration. PPV and RMS are normally described in units of inches per second (in/sec), and RMS is also often described in vibration decibels (VdB).

Noise-Sensitive Receptors in Project Site Vicinity

Noise-sensitive receptors are defined as land uses where noise-sensitive people may be present or where noise-sensitive activities may occur. Examples of noise-sensitive receptors include residences, schools (including uses such as classrooms, offices, and library), hospitals, churches, or public library properties.[8] There are potential noise-sensitive receptors located both on-campus and off-campus. Detailed information regarding noise-sensitive receptors is provided in Table 15 below. Distances are measured from the receptors to the nearest project site boundary (as shown in Figure 7 for the limit of grading). The project site boundary is assumed to include the likely surrounding construction zone, including both the construction area and construction staging areas as identified by the District. Pile driving, which can generate extreme levels of noise, may be used during project construction to provide foundation support for buildings or other structures. Because pile driving is proposed as part of this project, distances are also measured from the boundary of the proposed building (New Center for Liberal Arts), where pile driving could occur, to the nearest receptors.

Neptune Park is located approximately 95 feet to the east of the project site. However, Neptune Park is not designated as a walk/bike trail, a recreation center, or a picnic area where a quiet noise environment is normally expected because noise could be objectionable to users (Alameda Recreation and Park Department, 2015). In addition, Neptune Park is expected to be exposed to high ambient noise under the existing condition because it is adjacent to major roadways on both sides (Webster Street to the west and Constitution Way to the east). For these reasons, it is unlikely that noise-sensitive users would be located at Neptune Park. Therefore, Neptune Park is not regarded as a noise-sensitive receptor for the purposes of this analysis.

[8] As indicated in Alameda Municipal Code Section 4-10.4, Exterior Noise Standards, land uses such as residences, schools, hospitals, churches, or public library properties are more sensitive to noise than commercial properties and therefore are regarded as noise-sensitive receptors in this analysis.

TABLE 15 DISTANCES FROM PROJECT TO NEAREST NOISE-SENSITIVE RECEPTORS

Location	Receptor[a]	Distance and Direction to Project Site Boundary	Distance and Direction to Boundary of Project Building (New Center for Liberal Arts)[b]
On-campus	Cougar Village (contains classrooms)	5 feet to the north	15 feet to the north
On-campus	Building C/D (contains school offices)	75 feet to the west	155 feet to the west
On-campus	Building F (contains school offices)	25 feet to the southwest	60 feet to the southwest
On-campus	Building L (contains Library)	145 feet to the southwest	250 feet to the southwest
On-campus	Building A (contains school offices)	220 feet to the southwest	315 feet to the southwest
On-campus	Building S (Alameda Science and Technology Institute, contains classrooms)	610 feet to the west	720 feet to the west
On-campus	Children's Center (contains preschool)	890 feet to the southwest	1,000 feet to the southwest
Off-campus	Residences along Webster Street	150 feet to the east	230 feet to the east
Off-campus	Residences along Atlantic Avenue (Ralph Appezzato Memorial Parkway)	540 feet to the south	670 feet to the south
Off-campus	Rodeway Inn	535 feet to the south	700 feet to the south
Off-campus	Peter Pan Preschool	740 feet to the northeast	965 feet to the northeast

[a] The existing use of campus buildings and their associated names are indicated in the College of Alameda Facilities Master Plan.
[b] Pile driving would occur during project construction, and therefore this table provides distances between the proposed building and sensitive receptors.
Source: See Figure 7 (BKF, 2017) and measurements by Baseline Environmental Consulting, 2017.

Ambient Noise Environment

The primary sources of noise in the vicinity of the project site are traffic along major roadways near the project site, including (1) traffic on Webster Street, which runs north to south adjacent to the eastern border of the project site; and (2) traffic on Atlantic Avenue (Ralph Appezzato Memorial Parkway), which runs east to west approximately 360 feet south of the project site. Based on the future noise contour map for the year 2035 in the City of Alameda General Plan, traffic noise levels would range from 70 to 74 dBA CNEL at the project site and its vicinity in 2035 (City of Alameda, 2017). Since a large increase in growth that could lead to substantial increases in traffic is not anticipated in the area, for the purpose of this analysis, the existing noise levels at the project site and its vicinity are assumed to be the same as what is shown on the General Plan's 2035 noise contour map. Classroom activities are also sources of noise at the project site. However, because classroom activities are dominated by people talking and are mainly indoors, it is not expected that classroom activities would significantly contribute to the existing ambient noise levels (which are dominated by traffic noise) ranging from 70 to 74 dBA CNEL.

Regulatory Setting

California Noise Control Act

Sections 46000 to 46080 of the California Health and Safety Code codify the California Noise Control Act (CNCA) of 1973. The CNCA established the Office of Noise Control under the California Department of Health Services. The CNCA requires that the Office of Noise Control adopt, in coordination with the Office of Planning and Research, guidelines for the preparation and content of noise elements for general plans. The most recent guidelines are contained in the General Plan Guidelines published by the California Office of Planning and Research in 2003 (Governor's Office of Planning and Research, 2003). The document provides land use compatibility guidelines for cities and counties to use in their general plans in order to reduce conflicts between land use and noise.

California Building Standards Code

The 2016 California Building Standards Code specifies that buildings containing non-residential uses that are exposed to exterior noise levels at or above 65 dBA L_{eq} or CNEL must maintain interior noise level below 50 dBA L_{eq} in occupied areas during any hour of operation (California Code of Regulations, Title 24, Part 11, Section 5.507). An acoustical analysis documenting compliance with this interior sound level is required. The noise metric used (either L_{dn} or CNEL) must be consistent with the noise element of the local general plan (California Code of Regulations, Title 24, Part 2, Vol. 1, Section 1207.4).

California Occupational Safety and Health Administration (Cal/OSHA)

Noise exposure of construction workers is regulated by the Cal/OSHA. Title 8, Subchapter 7, Group 15, Article 105 of the California Code of Regulations (Control of Noise Exposure) sets noise exposure limits for workers and requires employers who have workers that may be exposed to noise levels above these limits to establish a hearing conservation program, make hearing protectors available, and keep records of employee noise exposure measurements. The Cal/OSHA also requires backup warning alarms that activate immediately upon reverse movement on all vehicles that have a haulage capacity of 2.5 cubic yards or more (Title 8, California Code of Regulations). The backup alarms must be audible above the surrounding ambient noise level at a distance of 200 feet. In order to meet this requirement, backup alarms are often designed to emit a sound as loud as 82 to 107 dBA L_{max} at 4 feet (NCHRP, 1999).

City of Alameda General Plan

The following relevant policies are contained within the City of Alameda General Plan Safety and Noise Element (City of Alameda, 2017):

- SN-53. Require compliance with the California Building Code requirements to ensure appropriate interior noise levels in new or replacement residential construction, hotels, motels, and schools.

- SN-56. Require noise reduction strategies in all construction projects. Require a vibration impact assessment for proposed projects in which heavy-duty construction equipment would be used (e.g. pile driving, bulldozing) within 200 feet of an existing structure or sensitive receptor. If applicable, the City shall require all feasible mitigation measures to be implemented to ensure that no damage to structures will occur and disturbance to sensitive receptors would be minimized.

- SN-57. In making a determination of impact under the California Environmental Quality Act (CEQA), consider the following impacts to be "significant" if the proposed project causes: an increase in the Ldn noise exposure of 4 or more dBA if the resulting noise level would exceed that described as normally acceptable for the affected land use, as indicated in Table 8-1 [of the General Plan], or any increase in Ldn of 6 dBA or more.

Alameda Municipal Code

Section 4-10 of the Alameda Municipal Code provides noise regulations in the City of Alameda, and contains the following relevant subsections:

4-10.4 Exterior Noise Standards [sets forth specific maximum exterior noise levels at different receiving land uses—see Table 16]

TABLE 16 EXTERIOR NOISE STANDARDS (DBA) FROM ALAMEDA MUNICIPAL CODE

	Single- or Multiple-Family Residential, School, Hospital, Church, or Public Library Properties		Commercial Properties	
Cumulative Number of Minutes in any 1-Hour Time Period	Daytime (7:00 AM to 10:00 PM)	Nighttime (10:00 PM to 7:00 AM)	Daytime (7:00 AM to 10:00 PM)	Nighttime (10:00 PM to 7:00 AM)
30 (L50)	50	50	65	60
15 (L25)	60	55	70	65
5 (L8.33)	65	60	75	70
1 (L1.67)	70	65	80	75
0 (Lmax)	75	70	85	80

Notes:
Ln - The sound pressure level exceeded for n percent of the time. For n percent of the time, the fluctuating sound pressure levels are higher than the Ln level.
Lmax - The maximum A-weighted sound level measured by the sound level meter over a given period of time.
Source: City of Alameda Municipal Code Section 4-10.4.

4-10.5 Prohibited Acts

b. Specific Prohibitions. The following acts, and the causing or permitting thereof, are a violation of this section:

10. Construction. Construction other than during the following hours: 7:00 AM to 7:00 PM Mondays through Fridays and 8:00 AM to 5:00 PM on Saturdays (with other exceptions that do not apply to the proposed project).

4-10.7 Special Provisions (Exceptions)

e. Construction. The provisions of this section shall not apply to noise sources associated with construction provided the activities take place between the hours of 7:00 AM to 7:00 PM. Mondays through Fridays or 8:00 AM to 5:00 PM on Saturdays.

Significance Thresholds

Construction Noise Thresholds

Based on the Alameda Municipal Code, noise levels associated with construction occurring between the hours of 7:00 AM to 7:00 PM, Mondays through Fridays, and between 8:00 AM to 5:00 PM on Saturdays would be exempt from the City's maximum exterior noise levels (see Table 16) established by the Alameda Municipal Code. However, any noise levels associated with construction occurring outside of these timeframes would have a significant impact.

For the purpose of this analysis, a 10 dBA Leq increase in ambient noise levels during construction would be considered as "substantial." Therefore, the proposed project would have a significant impact if it would increase the ambient noise level by 10 dBA Leq at the nearby receptors during construction period.[9]

Operational Noise Thresholds

Based on the Alameda Municipal Code, the proposed project would have a significant impact if exterior noise levels for school buildings or residences would exceed the following exterior noise standards (see Table 16):

- 50 dBA L_{50}/60 dBA L_{25}/65 dBA $L_{8.33}$/70 dBA $L_{1.67}$/75 dBA L_{max} during daytime (7:00 AM to 10:00 PM); and
- 50 dBA L_{50}/55 dBA L_{25}/60 dBA $L_{8.33}$/65 dBA $L_{1.67}$/70 dBA L_{max} during nighttime (10:00 PM to 7:00 AM).

Based on the 2016 California Building Code, the proposed project would have a significant impact if interior noise levels exceed 50 dBA L_{eq}. An acoustical analysis documenting compliance with this interior sound level is required.

Based on the City of Alameda General Plan, the proposed project would have a significant impact if it would cause (1) an increase in the L_{dn} noise exposure of 4 or more dBA if the resulting noise level would exceed that described as normally acceptable for the affected land use, as indicated in Table 8-1 of the General Plan; or (2) any increase in L_{dn} of 6 dBA or more.[10] For the purpose of this analysis, the proposed project would have a less-than-significant impact if the ambient noise levels would not change due to the operation of the proposed project.

Vibration Thresholds

The proposed project would have a significant impact if it would exceed the Federal Transit Administration's recommended vibration thresholds to prevent disturbance to people (see Table 17) or damage to buildings (see Table 18) (FTA, 2006). Because impact pile driving may cause tens or hundreds of vibration events per day, the "frequent events" thresholds (see Table 17) are conservatively used in this analysis. Specifically, the 72-VdB threshold is used for off-campus receptors where people normally sleep and the 75-VdB threshold is used for on-campus receptors where institutional land uses are primarily for daytime

[9] As indicated above, a 10-dBA increase is subjectively perceived as approximately a doubling in loudness.

[10] L_{dn} is the average A-weighted noise level during a 24-hour day. Because construction would not occur during nighttime hours, these thresholds are assumed to apply to operational phase of the proposed project.

use. The potential vibration damage threshold of 0.3 in/sec PPV (see Table 18) is used for both on-campus and off-campus buildings.

TABLE 17 VIBRATION CRITERIA TO PREVENT DISTURBANCE – ROOT MEAN SQUARE (RMS) (VIBRATION DECIBELS [VDB])

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Buildings where vibration would interfere with interior operations	65	65	65
Residences and buildings where people normally sleep	72	75	80
Institutional land uses with primarily daytime use	75	78	83

[a] More than 70 vibration events of the same kind per day or vibration generated by a long freight train.
[b] Between 30 and 70 vibration events of the same kind per day.
[c] Fewer than 30 vibration events of the same kind per day.
Source: FTA, 2006.

TABLE 18 VIBRATION CRITERIA TO PREVENT DAMAGE TO STRUCTURES

Building Category	Peak Particle Velocity (PPV) (Inches per Second)	Root Mean Square (RMS) (Vibration Decibels [VdB])
Reinforced-concrete, steel or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Non-engineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA, 2006.

IMPACT EVALUATION

a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Unless Mitigation Incorporated

Construction of the proposed project would not have the potential to generate noise that exceeds applicable standards. However, operation of the project would have the potential to generate noise that exceeds applicable standards as discussed below.

Construction-Generated Noise

Construction workers could be exposed to excessive noise from the heavy equipment used during construction of the proposed project. However, as described above, noise exposure of construction workers is regulated by the Cal/OSHA. The construction contractor for the proposed project would be subject to these regulations, and compliance with Cal/OSHA regulations would ensure that the potential for construction workers to be exposed to excessive noise is less than significant.

As indicated in Chapter I, Project Description, construction activities associated with the proposed project would be conducted from 7:00 AM to 7:00 PM, Mondays through Fridays, and from 8:00 AM to 5:00 PM on Saturdays, which is consistent with Alameda Municipal Code requirements. In addition, because noise levels associated with construction occurring in the above timeframe would be exempt from the maximum exterior noise levels established by the Alameda Municipal Code, the potential for construction activities to expose people to noise levels in excess of standards is less than significant.

Operation-Period Noise

Exposure to Existing Noise Sources

The proposed project would be located in areas where traffic noise levels range from approximately 70 to 74 dBA CNEL. A typical building façade with windows closed provides a noise level reduction of approximately 25 dBA (Charles M. Salter Associates Inc., 1998). For this reason, traffic noise would not cause the noise levels inside the project building to exceed the 50 dBA Leq interior noise standard for schools specified in the City of Alameda General Plan.

Project Noise Generation

The proposed project would not increase the number of students or faculty on the campus. Therefore, the proposed project would not introduce new traffic noise.

However, the proposed project would include the use of new mechanical heating, ventilation, and air conditioning (HVAC) systems. Implementation of standard controls would limit the effect of mechanical equipment noise on nearby noise-sensitive receptors. The project is already required to comply with the California Building Code and is expected to be exempt from the Alameda Municipal Code upon the Board's action to exempt the project under Government Code Section 53094. The mechanical equipment would be placed on the roof and be selected to minimize the potential impact of mechanical equipment noise. The system would include sound attenuators at rooftop air handling systems and associated exhaust systems. To ensure that appropriate controls on mechanical equipment are included in the project, implementation of Mitigation Measure NOISE-1 is required to reduce this potentially significant impact to a less-than-significant level.

Impact NOISE-1: Project operation (mechanical equipment) has the potential to generate noise exceeding interior noise standards for school receptors specified in the City of Alameda General Plan and exterior noise standards specified in the Alameda Municipal Code. (PS)

> *Mitigation Measure NOISE-1: The Peralta Community College District shall use the services of an acoustic design consultant, mechanical equipment selection and acoustical shielding, placement of equipment in less-sensitive areas, when feasible, and sound attenuators as feasible to ensure that noise levels from the installation of heating, ventilation, and air conditioning (HVAC) systems do not exceed the 50 dBA L_{eq} interior noise standard for school buildings and do not exceed the exterior noise standards of 50 dBA L_{50}/60 dBA L_{25}/65 dBA $L_{8.33}$/70 dBA $L_{1.67}$/75 dBA L_{max} during daytime (7:00 AM to 10:00 PM) and 50 dBA L_{50}/55 dBA L_{25}/60 dBA $L_{8.33}$/65 dBA $L_{1.67}$/70 dBA L_{max} during nighttime (10:00 PM to 7:00 PM) at the nearest school buildings and residences. (LTS)*

With the implementation of Mitigation Measure NOISE-1, noise levels from the HVAC system would not exceed 50 dBA L_{50} during daytime and nighttime. It is assumed that noise levels from HVAC systems would fluctuate very little, and therefore noise levels from HVAC in L_{eq} would approximate L_{50} and would not exceed 50 dBA L_{eq}. As discussed above, the existing ambient noise levels are expected to range approximately from 70 to 74 dBA CNEL, which is at least 10 dBA more than the mitigated noise levels from HVAC systems. When the difference between two sources of noise is 10 dBA or more, the higher noise source dominates and the lower noise source makes no perceptible difference in what people can hear or measure. Therefore, with mitigation, the proposed project would not cause an increase in ambient noise levels and would comply with the requirements in the City of Alameda General Plan.

b) Would the project result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Potentially Significant Unless Mitigation Incorporated

Construction is expected to occur over a period of approximately 17 months and could result in varying degrees of groundborne vibration, depending on the equipment, activity, and relative proximity to sensitive receptors. Once constructed, the proposed project would not be expected to cause any vibration or result in excessive vibration impacts.

Construction activities such as pile driving, the use of vibratory rollers, jackhammers or other high-power or vibratory tools, and mobile construction equipment can generate vibration in the immediate vicinity of the work area. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 19 presents published vibration levels at 25 feet from the types of construction equipment that could be used during construction of the proposed project. Table 19 also presents the buffer distance that would be required to reduce vibration levels to below the 75-VdB threshold for on-campus receptors, the 72-VdB threshold for off-campus residences and the off-campus Rodeway Inn, and the 0.3 in/sec PPV for both on-campus and off-campus buildings. The impacts associated with vibration disturbance and vibration damage are discussed in detail below.

Vibration Disturbance

Table 19 indicates that, if an impact pile driver is used, vibration levels during construction could disturb on-campus receptors within approximately 428 feet and off-campus receptors within approximately 539 feet of construction activities. Vibration levels associated with other equipment could also disturb on-campus receptors within approximately 107 feet and off-campus receptors within approximately 135 feet of construction activities. Based on the distances summarized in Table 15, the following on-campus receptors would be located within 428 feet and the following off-campus receptors would be located within 539 feet of the project building (New Center for Liberal Arts) where a pile driver could be used: (1) Cougar Village, (2) Building F, (3) Building C/D, (4) Building L, (5) Building A, and (6) residences along Webster Street. In addition, the following on-campus receptors would be located within 107 feet of the project site boundary where other construction equipment could cause disturbance: (1) Cougar Village, (2) Building F, and (3) Building C/D. No off-campus receptors are located within 135 feet of the project site boundary, and therefore they would not be disturbed by other construction equipment.

TABLE 19 VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment		Reference PPV at 25 Feet[a] (in/sec)	Reference RMS at 25 Feet[b] (VdB)	Vibration Disturbance Thresholds: Required Buffer Distance – On-Campus Threshold 75 VdB (Feet)	Vibration Disturbance Thresholds: Required Buffer Distance – Off-Campus Threshold 72 VdB (Feet)	Vibration Damage Threshold: Required Buffer Distance – On-Campus and Off-Campus Threshold 0.3 in/sec (Feet)
Pile Driver (Impact)	upper range	1.518	112	428	539	109
	typical	0.644	104	232	291	50
Pile Driver (Sonic)	upper range	0.734	105	250	315	56
	typical	0.170	93	100	125	15
Vibratory Roller		0.210	94	107	135	18
Hoe Ram		0.089	87	63	79	8.3
Large Bulldozer		0.089	87	63	79	8.3
Caisson Drilling		0.089	87	63	79	8.3
Loaded Trucks		0.076	86	58	73	7.2
Jackhammer		0.035	79	34	43	3.5
Small bulldozer		0.003	58	7	9	0.4

Notes: Receptors within the buffer distance could be affected by construction-generated vibration. Receptors outside of the buffer distance would not be expected to be affected by construction-generated vibration.

[a] PPV = peak particle velocity, in/sec = inches per second,

[b] RMS = root mean square, VdB = vibration decibel

PPV2 = PPV1 x (D1/D2)^1.1

Where:

PPV1 is the reference vibration level at a specified distance.

PPV2 is the calculated vibration level.

D1 is the reference distance (in this case 25 feet).

D2 is the distance from the equipment to the receiver.

Source of Equation: Caltrans, 2013.

RMS2 = RMS1 – 30 Log10 (D2/D1)

Where:

RMS1 is the reference vibration level at a specified distance.

RMS2 is the calculated vibration level.

D1 is the reference distance (in this case 25 feet).

D2 is the distance from the equipment to the receiver.

Source of Equation: FTA, 2006. Chapter 12.

The exposure of a given receptor to vibration in excess of the disturbance thresholds would be limited in duration because the location of construction equipment would vary throughout the day depending on the location where the vibration-generating equipment is being used, and would also vary over the 17-month period of construction of the proposed project. In addition, vibration levels at Building L, Building A, and residences along Webster Street would only exceed the vibration disturbance thresholds when a pile driver

is used. Because the total duration of pile driving is estimated to be less than 2 months,[11] potential impacts associated with pile driving activities would be of relatively short duration. Implementation of the following mitigation measures would lessen the disturbance caused by vibration.

Impact NOISE-2: Project construction could expose persons to or generate excessive groundborne vibration levels. (PS)

Mitigation Measure NOISE-2a: The Peralta Community College District shall require the construction contractor to develop a set of procedures for tracking and responding to complaints received pertaining to construction vibration and noise and implement the procedures during construction. At a minimum, the procedures shall include:

1. *Designation of an on-site construction complaint and enforcement manager for the project;*

2. *Protocols specific to on-campus and off-campus receptors for receiving, responding to, and tracking received complaints; and*

3. *Maintenance of a complaint log that records received complaints and how complaints were addressed.*

Mitigation Measure NOISE-2b: Nearby residents, college students, and staff shall be informed by posting informational notices on the fence line of the construction site, nearby buildings, and classrooms. The notice shall state the date of planned construction activity and include the contact information of the construction complaint and enforcement manager identified in Mitigation Measure NOISE-2a.

Mitigation Measure NOISE-2c: To the maximum extent practicable, the construction contractor shall coordinate construction activities (particularly pile driving) so that they do not occur during established testing periods (e.g., finals week).

The combination of the three mitigation measures above would reduce the impact to a less-than-significant level. (LTS)

Mitigation Measures NOISE-2a through NOISE-2c above would require (1) the development of a compliance tracking system; (2) notification of potentially affected residences, students, and staff of planned construction activities; and (3) scheduling of particularly strong vibratory construction equipment (e.g., pile driving) to avoid disrupting testing periods, to the extent feasible. In addition, pile driving activities, which would cause the highest vibration levels to disturb on-campus receptors, would be completed in less than 2 months and therefore would be relatively short term.[12] For these reasons, vibration impacts on both on-campus and off-campus receptors would be reduced to a less-than-significant level after the implementation of the required mitigation measures.

[11] According to the California Emissions Estimator Model (CalEEMod) construction phase (see Appendix B).
[12] According to the California Emissions Estimator Model (CalEEMod) construction phase (see Appendix B).

Vibration Damage

Construction-generated vibration would not have the potential to damage off-campus buildings. As indicated in Table 19, buildings located within approximately 109 feet of an impact pile driver could be exposed to vibration levels in excess of the 0.3 in/sec threshold for damage to buildings. Buildings located within approximately 18 feet of non-pile driving construction equipment could be exposed to vibration levels in excess of the 0.3 in/sec threshold for damage to buildings. All of the off-campus receptors are located at least 230 feet from where an impact pile driver could be used, and at least 150 feet from where any non-pile driving construction equipment could be used. Based on these distances, vibration levels would not exceed 0.3 in/sec at off-campus receptors even when an impact pile driver is used. Therefore, the potential for project construction activities to result in damage to off-campus buildings is less than significant.

On-campus buildings surround the project site to the north, west, and southwest. The closest building is located approximately 5 feet from the project site boundary, and therefore could be subject to potentially damaging levels of vibration during construction of the proposed project. However, consideration of damage to buildings on the District's own property is a standard part of the design and review process for a construction project and has been considered by the Division of State Architect. This process would ensure that existing buildings remain in good condition both during and after construction of the proposed project. Therefore, the potential for construction-generated vibration to result in damage to on-campus buildings is less than significant.

c) *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Potentially Significant Unless Mitigation Incorporated

As discussed above, the proposed project would not increase the number of students or faculty on the campus, and therefore would not introduce new traffic noise.

However, the proposed project would include the use of HVAC systems. Information regarding the noise-generating characteristics and locations of the proposed HVAC systems to be used in the project was not available at the time this analysis was conducted. Implementation of standard controls would limit the effect of mechanical equipment noise in the project vicinity. However, because unmitigated mechanical equipment noise could potentially increase the ambient noise levels in the project vicinity resulting in a substantial permanent increase, this is a potentially significant impact.

Impact NOISE-3: The project (mechanical equipment) could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. (PS)

Mitigation Measure NOISE-3: Implement Mitigation Measure NOISE-1. (LTS)

With the implementation of Mitigation Measure NOISE-3, noise levels from the HVAC system would not exceed 50 dBA Leq. As discussed above, the existing ambient noise levels are expected to range approximately from 70 to 74 dBA CNEL, which is at least 10 dBA more than the mitigated noise levels from HVAC. When the difference between two sources of noise is 10 dBA or more, the higher noise source

dominates and the lower noise source makes no perceptible difference in what people can hear or measure. Therefore, the potential for the proposed project to cause a substantial permanent increase in ambient noise levels would be less than significant with the implementation of Mitigation Measure NOISE-3.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Unless Mitigation Incorporated

As discussed above, construction is expected to occur over a period of approximately 17 months. Construction noise levels would vary from day to day, depending on the number and condition of the pieces of equipment being used, the types and duration of activity being performed, the distance between the noise source and the receptor, and the presence of absence of barriers, if any, between a noise source and a receptor. Excavation/grading and foundation work are typically the noisiest phases of construction, and would occur during the first phases of construction. The later phases of construction would include activities that are typically quieter, and many of these activities would occur within the building under construction, which would provide a noise barrier between the construction activity and any nearby receptors. Pile driving, which can generate an extreme level of noise, would be used to provide foundation support for the new building.

Construction Equipment Noise

Table 20 shows typical noise levels associated with various types of construction equipment that may be used during each phase of construction. A general assessment of construction noise includes the two noisiest pieces of equipment expected to be used in each construction phase (FTA, 2006). The combined noise levels of the two noisiest pieces of equipment and their backup alarms have been calculated to represent the noise impact from construction.[13] Based on the addition of the two noisiest pieces of equipment and their backup alarms at 50 feet, noise levels at the nearest on-campus and off-campus receptors have also been calculated and are presented in Table 20. To calculate noise levels associated with the grading phase (pile driving), the distances between each receptor and the project building are used, as listed in Table 15. To calculate noise levels associated with other construction phases, the distances between each receptor and the project site boundary (see grading limit shown in Figure 7) are used, as listed in Table 15.

Construction activities associated with the proposed project would not cause a substantial temporary increase in noise levels at the nearest off-campus receptors. As discussed above, the existing ambient noise levels are expected to range from 70 to 74 dBA CNEL. Table 20 indicates that noise levels during construction would be as high as 77 dBA Leq at residences along Webster Street, which would exceed the ambient noise levels by less than the 10 dBA Leq significance criterion. Therefore, the potential for off-campus receptors to be exposed to a substantial temporary increase in noise as a result of construction of the proposed project is less than significant. However, because the on-campus receptors are at close proximity to the project site, the proposed project could cause a substantial temporary increase in noise levels at the nearest on-campus receptors. As indicated in Table 20, noise levels during construction would

[13] Noise levels are calculated based on the following equation:
$(L = 10LOG10\left(\sum_{i=1}^{n} 10^{(\frac{Li}{10})}\right))$

TABLE 20 REFERENCE AND CALCULATED NOISE LEVELS FROM CONSTRUCTION EQUIPMENT (DBA)

Construction Phase	Equipment	Reference Noise Level at 50 Feet (dBA L_{eq})[a]	Addition of Two Noisiest Pieces of Equipment and Their Backup Alarms at 50 Feet (dBA L_{eq})	Noise Level at Nearest On-Campus Receptors[b]				Noise Level at Nearest Off-Campus Receptors[b]		
				Cougar Village	Building F	Building C/D	Building L	Residences along Webster Street	Residences along Atlantic Avenue (Ralph Appezzato Memorial Parkway)	Rodeway Inn
Site Preparation	Rubber-Tired Dozers	78	83	108	91	79	71	71	57	57
	Tractors/Loaders/Backhoes	74								
	Graders	81								
	Backup Alarm	54								
Grading	Graders	81	83	108	91	79	71	71	57	57
	Rubber-Tired Dozers	78								
	Tractors/Loaders/Backhoes	74								
	Backup Alarm	54								
Pile Driving	Pile Driver	94	94	107	92	82	77	77	66	65
Building Construction	Cranes	73	79	104	87	75	67	67	53	53
	Generator Sets	78								
	Tractors/Loaders/Backhoes	74								
	Welders	70								
	Backup Alarm	54								
Paving	Cement and Mortar Mixers	75	78	103	86	74	66	66	52	52
	Pavers	74								
	Rollers	73								
	Tractors/Loaders/Backhoes	74								
	Backup Alarm	54								
Architectural Coating	Air Compressors	74	74	99	82	70	62	62	48	48

TABLE 20 REFERENCE AND CALCULATED NOISE LEVELS FROM CONSTRUCTION EQUIPMENT (DBA)

Note: **Bold** numbers indicate noise levels that are more than 10 dBA above ambient noise level.
Construction noise levels at Building L would not be more than 10 dBA above ambient noise level. Therefore, receptors located farther than where Building L is located (i.e., Building A, Building S, and Children's Center) are not presented in the table. Similarly, Peter Pan Preschool is not presented in the table.
[a] Reference noise levels at 50 feet expressed in L_{eq} were calculated based on the reference noise levels expressed in L_{max} from FHWA Highway Construction Noise Handbook (U.S. Department of Transportation, 2006), taking into account the acoustical usage factors also from the Handbook.
[b] Based on reference noise levels at 50 feet, the following propagation adjustment was applied to estimate noise levels at on-campus and off-campus receptors. The distances to the boundary of the New Center for Liberal Arts (i.e., the project building) for each receptor indicated in Table 15 are used to calculate noise levels associated with grading (pile driving). The distances to the project site boundary for each receptor indicated in Table 15 are used to calculate noise levels associated with the other construction phases.

$dBA2 = dBA1 + 10\ Log_{10}(D1/D2)^{2.5}$

Where:

dBA1 is the reference noise level at a specified distance (in this case 50 feet).
dBA2 is the calculated noise level.
D1 is the reference distance (in this case 50 feet).
D2 is the distance from the equipment to the receiver.

Source of Equation: Caltrans Technical Noise Supplement, October 1998, page 27.
Source: The types of construction equipment are based on the California Emissions Estimator Model (CalEEMod) equipment list (see Appendix B). Because the proposed project would occur on a school site, backup alarms have been conservatively included in the assessment. Because pile driving is proposed as part of the project, a pile driver is included in the assessment.

be as high as 107 dBA L_{eq}, 92 dBA L_{eq}, and 82 dBA L_{eq} at Cougar Village, Building F, and Building C/D, respectively, when a pile driver is used. Noise levels during construction would also be as high as 108 dBA Leq and 91 dBA Leq at Cougar Village and Building F when non-pile driving equipment is used. Therefore, noise generated during construction has the potential to increase ambient noise levels at the nearest on-campus receptors by more than the 10 dBA Leq significance criterion.

Construction-generated noise levels could expose on-campus receptors to a substantial increase in ambient noise levels. The implementation of the following mitigation measures would lessen the construction noise impact.

Impact NOISE-4: Project construction could generate a substantial temporary increase in ambient noise levels at on-campus locations in the project vicinity above levels existing without the project. (PS)

Mitigation Measure NOISE-4a: Implement Mitigation Measure NOISE-2a.

Mitigation Measure NOISE-4b: Implement Mitigation Measure NOISE-2b.

Mitigation Measure NOISE-4c: Implement Mitigation Measure NOISE-2c.

Mitigation Measure NOISE-4d: For all project construction activities, the District shall require the construction contractor to implement noise reduction measures to reduce noise impacts related to construction. Noise reduction measures include, but are not limited to, the following:

1. *Equipment and trucks used for project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds), wherever feasible.*

2. *Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall, to the extent feasible, be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available; this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, to the extent feasible, whenever such procedures are available and consistent with required construction procedures.*

3. *To the extent feasible, stationary noise sources shall be located as far from nearby receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures to provide equivalent noise reduction as feasible.*

The combination of the above mitigation measures would reduce the impact to a less-than-significant level. (LTS)

Implementation of Mitigation Measures NOISE-4a through NOISE-4d would reduce the impacts of construction noise associated with the use of heavy construction equipment to a less-than-significant level.

Noise from Construction Truck Trips

In addition to the potential noise impacts associated with the use of heavy construction equipment, noise would be generated by truck trips associated with fill material deliveries and material off-haul. Based on information provided in Chapter I, Project Description, these activities are expected to generate up to a total of 250 truck trips over about 10 days for the course of the project on Ralph Appezzato Memorial Parkway/Atlantic Avenue, the designated truck route serving the project site.[14] Because the project site is located adjacent to major roadways with existing ambient noise ranging from 70 to 74 dBA CNEL, a total of 250 truck trips over about 10 days (approximately 4 trips per hour)[15] are not expected to increase ambient noise levels substantially. Consequently, the potential for the estimated total of 250 truck trips over about 10 days for the course of the project to result in a substantial temporary increase in ambient noise levels is less than significant.

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 expose people residing or working in the project area to excessive noise levels?

No Impact

The project site is located approximately 4 miles northwest of the nearest public use airport, Oakland International Airport.[16] The project site is not located within the airport influence area (Alameda County Airport Land Use Commission, 2010). In addition, the proposed project would not introduce new residents or users to the project site. Therefore, the proposed project would not expose people in the project area to excessive noise from any public use airport.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact

Based on review of federal airport records, there are no private airstrips within 2 miles of the project site (Federal Aviation Administration, 2017). In addition, the proposed project would not introduce new residents or users to the project site. Therefore, the proposed project would not expose people in the project area to excessive noise from any private airstrip.

REFERENCES

Alameda County Airport Land Use Commission, 2010. *Oakland International Airport; Airport Land Use Compatibility Plan,* December.

[14] See Section XVI, Transportation/Traffic.

[15] Assuming an 8-hour working day.

[16] Nimitz Field, also known as the Naval Air Station Alameda (NAS Alameda), located approximately 2 miles west of the project site, was closed in 1997.

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

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	❒	❒	❒	■

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact

As stated in Chapter I, Project Description, no increase in students or faculty is expected as a result of the project, and the project is being constructed on an existing public community college campus. Thus, there would be no impact related to a substantial increase in population in the area, either directly or indirectly.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact

No existing housing would be displaced by the project.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact

No people would be displaced by the project. The project site is now occupied by a campus road and informal landscaping on an existing public community college campus.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. 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:				

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	❒	❒	■	❒
Police protection?	❒	❒	■	❒
Schools?	❒	❒	■	❒
Parks?	❒	❒	■	❒
Other public facilities?	❒	❒	■	❒

IMPACT EVALUATION

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: Fire protection, police protection, schools, parks, other public facilities?*

Less Than Significant Impact

Since the project would not increase student, faculty, or staff population on the campus, it would not cause any substantial increase in demand for public services. Therefore, no new or altered fire, police, school, park, library, or other public facilities would be needed to serve the project, and no related environmental impacts of constructing such facilities would occur.

Fire Protection and Police Services

The campus is located within the Alameda city limits, an area served by the Alameda Police Department and the Alameda Fire Department. The Peralta Community College District contracts with the Alameda County Sheriff's Office for police services on campus (Peralta Community College District, 2017). The project site would be served by existing emergency response personnel during construction, but any emergency response demands would not result in the need for new or altered facilities to be built. Since the project would not increase the population on the campus, no new fire or police facilities or staffing would be needed to serve the project. Changes to emergency access proposed by the project are addressed in Section VIII, Hazards and Hazardous Materials, and Section XVI, Transportation/Traffic, of this Initial Study. The State of California's Division of the State Architect would review the project to determine compliance with the California Building Code and fire safety requirements.

Schools

The project is not expected to create a need for new or altered public school facilities, since the project itself is intended to replace aging public school facilities on an existing public community college district campus and would not increase the campus population.

Parks

No new or altered parks are expected to be needed to serve the project, as the campus already contains recreational facilities and the project would not increase the population on the campus. City of Alameda recreational facilities in the vicinity include (1) Neptune Park, immediately east of the campus on the east side of Webster Street; and (2) the Alameda Beltline, located east of the campus on the south side of Atlantic Avenue at the southern terminus of Bartlett Drive (see Figure 8). The project would not change the level of use in these parks. Thus, the impact on park facilities is considered less than significant.

Other Public Facilities

No other public facilities such as libraries are expected to be affected by the project, as the campus population would not change as a result of the project.

REFERENCES

Peralta Community College District, 2017. "Peralta Police Services Home." Website: http://web.peralta.edu/police-services/, accessed March 28, 2017.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	RECREATION.				
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?	❒	❒	■	❒

IMPACT EVALUATION

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

Refer to the discussion above in Section XIV, Public Services. The project would not cause substantial physical deterioration of parks or other recreational facilities, since the campus already contains recreational facilities and the project would not increase the student, faculty, or staff population on the campus.

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 the discussion above in Section XIV, Public Services. The project does not include construction or expansion of recreational facilities and would not require construction or expansion of off-site recreational facilities.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	❒	❒	■	❒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	❒	❒	■	❒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	❒	❒	❒	■
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	❒	❒	■	❒
e) Result in inadequate emergency access?	❒	❒	■	❒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	❒	❒	■	❒

IMPACT EVALUATION

a) Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less Than Significant Impact

As stated in Chapter I, Project Description, no increase in the number of students or faculty is anticipated; therefore, the project would not result in increased student or faculty trip generation (walking, bicycle, transit, vehicle, etc.).

To accommodate the proposed New Center for Liberal Arts building, the Campus Loop Road would be replaced with a two-way service and emergency vehicle access path. The path would not only facilitate on-site circulation but also connect to Ralph Appezzato Memorial Parkway (south of the New Center for Liberal Arts), and Willie Stargell Avenue (north of the New Center for Liberal Arts). To accommodate the two-way access lane, parallel parking along the south side of the existing Campus Loop Road would be removed. This would result in the loss of no more than 40 parking spaces, 36 of which are staff-only spaces. Under existing conditions, there are a total of 560 parking spaces provided on-site, and the on-campus parking lots generally operate below maximum capacity. The proposed project would result in a reduction of up to 7 percent of on-campus parking. However, any shortfall of parking availability resulting from the loss of parking would be absorbed by the remaining on-site parking supply (Smith, 2017).

The removal of the Campus Loop Road would result in some redistribution of traffic patterns, and access to and from the interior of the campus would be limited to the main entrance along Ralph Appezato Memorial Parkway or the driveway along Willie Stargell Avenue. Vehicles would no longer be able to traverse across campus between the two driveways. However, no changes are proposed to the East Campus Drive and West Campus Drive segments of the on-campus roadway. Vehicles would continue to reach on-site parking based on their origins and destinations outside of the campus, i.e., vehicles traveling from north of the campus would reach the northern parking lot via Willie Stargell Avenue, and those traveling from south of the campus would reach the parking lot at the southwest area of the campus via Atlantic Avenue. As such, the redistribution of traffic patterns resulting from the removal of the Campus Loop Road is expected to be minimal.

The project does not propose any changes to the external circulation system providing access to and from the campus. Proposed developments in the vicinity of the project site include the Cross Alameda Trail, an 0.8-mile-long multi-use pathway that would run parallel to the south side of Atlantic Avenue/Ralph Appezzato Memorial Parkway between Webster Street and Main Street just south of the College of Alameda. Construction of the Cross Alameda Trail project is scheduled to be completed in Fall 2018. Project-related construction would be contained on the project site, and therefore the project would have no impact on the Cross Alameda Trail development or on the surrounding circulation system. The changes proposed to the on-site circulation system are expected to result in less-than-significant impacts.

b) Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact

The proposed project is located at 555 Ralph Appezzato Memorial Parkway. Vehicular access to and from the project site is provided via Atlantic Avenue/Ralph Appezzato Memorial Parkway to the south and Willie Stargell Avenue to the north. Atlantic Avenue/Ralph Appezzato Memorial Parkway is a two- to four-lane

east-west regional arterial roadway, with turn lanes provided at major intersections. The arterial runs from Main Street in the west to its transition to Sherman Street in the east.

Webster Street (State Route 260) is a two- to four-lane north-south regional arterial roadway, with turn lanes provided at major intersections. The roadway provides connection to Oakland via the Webster Street/Posey Tube in the north, and runs south to Central Avenue. Willie Stargell Avenue is a two- to four-lane east-west island arterial roadway, with turn lanes provided at major intersections. The arterial runs from Main Street in the west to Webster Street in the east.

Atlantic Avenue and Webster Street are both designated as part of the Alameda County Congestion Management Program (CMP) Roadway Network. Level of service (LOS) standards have been established by the CMP to monitor the traffic flow conditions along regional roadways. LOS E, corresponding to average travel speeds lower than 13 miles per hour, has been set as the minimum standard for roadways within the CMP network. However, along the segment of Webster Street from Oakland to Atlantic Avenue, the acceptable LOS has been "grandfathered in" at LOS F, corresponding to the roadway's existing operations when the LOS standards were established.

The City of Alameda considers a project's impact on an intersection to be significant if the project would cause the intersection to operate below LOS D. If an intersection is already operating at LOS E or worse, the project's impact would be considered significant if the project would cause a 3 percent or greater increase in the traffic volume.

In the long term, project-proposed changes are not expected to result in an increase in student or faculty trips to and from the campus. As discussed in Chapter I, Project Description, the project proposes the removal of approximately 40 parking spaces, including removal of 36 staff-only spaces to accommodate the two-way access lane. Under the CEQA Guidelines, the adequacy of project parking is not in and of itself a CEQA issue. However, the removal of parking may result in increased traffic as visitors look for available parking spaces. Any additional traffic would be contained on the project site.

During construction, the project is expected to add up to a total of 250 truck trips over about 10 days for the course of the project on Ralph Appezzato Memorial Parkway/Atlantic Avenue, the designated truck route serving the project site. These truck trips would occur over an eight-hour period on average during construction hours (7:00 AM to 7:00 PM Mondays through Fridays and 8:00 AM to 5:00 PM on Saturdays). The daily truck trips would average fewer than two truck trips per hour. The increase in vehicular traffic would be short-term, and the project's construction management plan would ensure that impacts related to this increase would be less than significant.

The construction trips would be distributed throughout the day, and any changes to traffic operations along nearby roadways and intersections would be short-term. In the long term, the project would not conflict with applicable level of service standards or travel demand measures, and its impact would be considered less than significant.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact

The project is located within approximately 4 miles (10 road miles) northwest of Oakland International Airport. The project does not propose any changes that would affect air traffic patterns, increase air traffic levels, or result in a change in location that would create substantial safety risks. The project would have no impact on air traffic patterns.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact

Project-related changes would be contained on-site, and the project does not propose any modifications to roadways or intersections outside of the project site. To facilitate traffic operations during construction, the contractor would have a trained flag-person for deliveries using large trucks (dumps, transfers, concrete, 18-wheelers), and on an as-needed basis. The flag-person would be on-site for all deliveries and would meet trucks at the campus driveway along Ralph Appezzato Memorial Parkway/Atlantic Avenue. As discussed in Chapter I, Project Description, construction hours would be from 7:00 AM to 7:00 PM Mondays through Fridays and from 8:00 AM to 5:00 PM on Saturdays. During these hours, construction trips would occur over eight-hour period on average. Construction warning signage would also be posted along Ralph Appezzato Memorial Parkway/Atlantic Avenue and within the project site.

The project's impact would be considered less than significant, as the project would not adversely affect existing level of service and construction trips would not occur during the peak travel times along adjacent roadways. The project does not propose any design features that would substantially increase hazards or introduce incompatible uses to the site.

e) Would the project result in inadequate emergency access?

Less Than Significant Impact

Emergency vehicle access to and from the campus would continue to be provided via adjacent roadways (i.e., Atlantic Avenue, Webster Street, Willie Stargell Avenue, and 5th Street). On-site emergency vehicle circulation from north of the project building would be provided via an existing on-site access roadway that connects to Willie Stargell Avenue north of the campus and Atlantic Avenue south of the campus (see Figure 3). The access lane would have an adequate 20-foot minimum width to accommodate fire truck access. South of the New Center for Liberal Arts, the roadway would include a 60-foot-wide "Y" turnaround, and the roadway would be widened to 26 feet to satisfy the dead-end width requirement of the California Fire Code (California Fire Code, Sections 1273.05 and 1273.09). Under existing conditions, on-site emergency vehicle circulation at the east side of the campus is accommodated by the Campus Loop Road, a one-way travel lane with parking provided along the south and east side of the roadway. South and east of the building, parking would be removed and the modified lane would continue to connect to College Way and to Atlantic Avenue, and maintain emergency vehicle access to adjacent roadways. The north and south

segments of Campus Drive would adequately accommodate emergency vehicle access to the new building. As such, impacts on emergency vehicle access would be considered less than significant.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less Than Significant Impact

The project proposes the provision of a new pedestrian entrance adjacent to the northeast corner of the building. The new entrance would provide a pedestrian pathway that would connect the campus to Webster Street and neighborhoods to the east. The path would also provide an alternative pedestrian travel path to and from the Marina Village Shopping Center north of the campus.

The project-proposed changes to the pedestrian network are consistent with Goal 4.4.1 of the City of Alameda Pedestrian Plan (January 2009), providing a convenient pedestrian connection between major origins and destinations through the new pedestrian path.

The pathway would also provide pedestrian access to the Alameda Contra Costa Transit (AC Transit) bus stop at Webster Street/Willie Stargell Avenue. The stop serves AC Transit Line 19, a new bus line that began service in December 2016.

The project does not propose any changes to bicycle facilities serving the campus. Bicyclists would have access to the project site via the new pedestrian entrance. The project does not conflict with the vision, goals, and policies listed in the City of Alameda Bicycle Master Plan (updated November 2010).

Several bus stops serve the project site, the closest of which are the stops along Webster Street approximately 200 feet south of the Webster Street/Willie Stargell Avenue along the west side of Webster Street, and 65 feet south of the intersection along the east side of Webster Street. The project does not propose any changes to these facilities.

The project does not propose any elements that would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, including those listed in the City of Alameda Pedestrian Plan (Component of the City's Transportation Master Plan) (January 2009) and the City of Alameda Bicycle Master Plan (updated November 2010).

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	UTILITIES AND SERVICE SYSTEMS. Would the project:				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	❒	❒	■	❒
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❒	❒	■	❒
c)	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❒	❒	■	❒
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	❒	❒	■	❒
e)	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?	❒	❒	■	❒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	❒	❒	■	❒
g)	Comply with federal, State, and local statutes and regulations related to solid waste?	❒	❒	■	❒

IMPACT EVALUATION

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact

The campus discharges sewage flows into the City of Alameda conveyance system, which in turn delivers raw sewage flows to the EBMUD conveyance system, which carries flows under the Oakland Estuary and into the regional wastewater treatment facility (WLC Architects, 2009). The project would not change overall existing demand for wastewater treatment, since it would not increase the student, faculty, or staff population on the campus. Use of project facilities would generate an estimated 350,000 gallons of sewage per year (Marschak, 2017), but this flow would not affect wastewater treatment requirements since the overall demand for wastewater treatment would not change as a result of the project. The project therefore would not exceed Regional Water Quality Control Board wastewater treatment requirements.

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact

Overall demand for water and wastewater services would not increase due to the project, since the project would not increase the student, faculty, or staff population on the campus. Demand for these services may increase slightly during project construction, but any increases would be temporary and would not create a need for new or expanded facilities.

The campus receives water (combined domestic and fire hydrant service) through an 8-inch meter and 8-inch lateral tied to a 24-inch main in Webster Street east of the campus. EBMUD owns and maintains the 24-inch main. As noted under Item (a) above, the campus discharges sewage flows into the City of Alameda conveyance system, which in turn delivers raw sewage flows to the EBMUD conveyance system, which carries flows under the Oakland Estuary and into the regional wastewater treatment facility (WLC Architects, 2009).

As noted in Chapter I, Project Description, as part of the project, existing domestic and fire water lines would be rerouted around the building footprint and new fire hydrants would be provided as required by the Alameda Fire Department. The new domestic water and fire water services for the building would be connected to these relocated lines. An existing sanitary sewer line that serves Building F to the southwest and the portables to the north would be extended to serve the new building. The environmental impacts of installing these on-site facilities are evaluated as part of the analysis of the project throughout this Initial Study. No work in public streets is proposed or anticipated for these facilities (Marschak, 2017). Impacts would therefore be less than significant.

c) Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact

Project impacts on stormwater drainage are addressed in Section IX, Hydrology and Water Quality.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact

Refer to Item (b) above. EBMUD provides water service to the campus. The project would not increase overall water demand, since it would not increase the student, faculty, or staff population on the campus. Use of project facilities would generate demand for an estimated 350,000 gallons of water per year (not including landscape irrigation) (Marschak, 2017), but this demand would not affect water supplies since the overall demand for water would not change as a result of the project. Similarly, irrigation water demand from the project is not expected to exceed current demand, since (1) the project would replace a large portion of the existing high-water-use lawn on the project site, and (2) proposed landscaping would use drought-tolerant plants and high-efficiency irrigation (Gardella, 2017).

As described in Chapter I, Project Description, the project would include (1) water-saving plumbing fixtures, at or above standard for the State of California Green Building Standards Code; and (2) water-efficient irrigation systems, mandated by the Division of the State Architect. All plants within the landscape would be located within the appropriate hydrozone in relation to other plant material. Irrigation would use a weather-based irrigation controller, and the design and equipment would promote water conservation that meets state model water-efficient landscape ordinance requirements. Landscape areas over 10 feet in dimension may use high-efficiency spray irrigation, while smaller zones and all trees would be irrigated with bubbler systems.

Water demand may increase slightly during project construction, but any increases would be temporary and would not create a need for new or expanded water entitlements.

e) 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 Items (a) and (b) above. The project would not affect overall demand for wastewater treatment, and therefore impacts on wastewater treatment capacity would be less than significant.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact

The project would not increase the student, faculty, or staff population on the campus, and therefore project operations would not generate new solid waste that would affect landfill capacity. Project construction would generate approximately 3,000 cubic yards of waste (Conrad, 2017). The Altamont Landfill, which accepts solid waste from Alameda, has an estimated permitted capacity of 124.4 million cubic yards, a daily permitted capacity of 11,150 tons, and an estimated remaining capacity of 65.4 million cubic yards as of 2014 (CalRecycle, 2017). Construction waste from the project would represent a very small percentage of the landfill's remaining capacity, and therefore it is reasonable to assume that adequate landfill capacity would be available for this minor amount of construction debris. In addition, the Peralta Community College District requires sustainable methods of construction and recycled materials in all operations and construction projects (WLC Architects, 2009), which would help to reduce waste from project construction. The project would also be subject to State of California Green Building Standards Code (CALGreen Code) requirements for construction waste reduction and recycling (see Item (g) below).

g) Would the project comply with federal, State, and local statutes and regulations related to solid waste?

Less Than Significant Impact

By law, the project must comply with all applicable federal, state, and local statutes and regulations related to solid waste. The project would be subject to the CALGreen Code, which includes requirements for waste reduction and recycling; these include requirements that a minimum of 65 percent of nonhazardous construction and demolition waste be recycled and/or salvaged for reuse, that a construction waste management plan be prepared, and that readily accessible areas be provided to allow recycling by project occupants (DSA, 2017). The Division of the State Architect would review the project to verify compliance with State of California requirements, including the CALGreen Code. In addition, as noted under Item (f) above, the Peralta Community College District requires sustainable methods of construction and recycled materials in all operations and construction projects (WLC Architects, 2009). The project therefore is not expected to cause any conflicts with statutes or regulations related to solid waste.

REFERENCES

California Department of Resources Recycling and Recovery (CalRecycle), 2017. "Facility/Site Summary Details: Altamont Landfill & Resource Recovery (01-AA-0009)." Website: http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail//diversionprogram/JurisdictionDiversionDetail.aspx?JurisdictionID, accessed July 5, 2017.

Conrad, Mike, Overaa, 2017. Telephone conversation with A. Skewes-Cox, May 10.

Division of the State Architect (DSA), 2017. "Project Submittal Guideline: CALGreen Code." Website: https://www.documents.dgs.ca.gov/dsa/pubs/GL_4.pdf, accessed March 28, 2017.

Gardella, Chuck, Gates & Associates, 2017. Email re. "CEQA – FW: Missing info on services/utilities for COA," May 9.

Marschak, Merideth, Noll and Tam, 2017. Email re. "Data for COA Initial Study related to utilities and services," March 9.

WLC Architects, Inc., 2009. *College of Alameda Facilities Master Plan*, pages 18, 83, and 86.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	ENERGY. Would the project:				
a)	Result in a substantial increase in overall per capita energy consumption?	❒	❒	■	❒
b)	Result in wasteful, inefficient, or unnecessary consumption of energy?	❒	❒	■	❒
c)	Require or result in the construction of new sources of energy supplies or additional energy infrastructure capacity, the construction of which could cause significant environmental effects?	❒	❒	■	❒
d)	Conflict with applicable energy efficiency policies or standards?	❒	❒	■	❒

IMPACT EVALUATION

a) Would the project result in a substantial increase in overall per capita energy consumption?

Less Than Significant Impact

The project would not increase the student, faculty, or staff population on the campus, and therefore project operations would not result in a substantial increase in overall per capita energy consumption. Total energy demand from project operations is estimated at 1,984,603 thousand British thermal units (kBtu) per year assuming baseline building systems (e.g., packaged rooftop unit and minimally code-compliant systems), but this demand would be reduced to approximately 1,502,723 kBtu per year with the use of energy-saving features (Marschak, 2017) and the demand would not be entirely new, since the project would not increase the overall campus population. As described in Chapter I, Project Description, the project's energy-saving features are expected to include (1) water-saving plumbing fixtures, at or above standard for the State of California Green Building Standards Code; (2) water-efficient irrigation systems, mandated by the Division of the State Architect; and (3) indoor lighting systems to meet the minimum code efficiency requirements for Title 24 2016 (2016 California Building Code), e.g., light-emitting diode (LED) lighting, occupancy sensors in offices, and daylight dimming controls at perimeter zones. The project is intended to replace existing buildings that would be removed as part of a future project and thus is likely to produce energy savings in the long term, since new buildings are generally more energy-efficient than older ones. Some minor

amounts of energy (gasoline for equipment, etc.) would be used during construction, but this consumption would be temporary and would not be a substantial increase. The project therefore would not result in a substantial increase in overall per capita energy consumption.

b) Would the project result in wasteful, inefficient, or unnecessary consumption of energy?

Less Than Significant Impact

Refer to Item (a) above. As discussed under Item (a), the project would include energy-saving features, would not result in a substantial increase in overall per capita energy consumption, and is likely to produce energy savings in the long term. The project therefore would not result in wasteful, inefficient, or unnecessary consumption of energy.

c) Would the project require or result in the construction of new sources of energy supplies or additional energy infrastructure capacity, the construction of which could cause significant environmental effects?

Less Than Significant Impact

The campus is served by (1) a 12-kilovolt underground electrical line owned by Alameda Municipal Power and running along West Campus Drive, and (2) two 6-inch gas lines that run north into campus from PG&E facilities at the corner of Atlantic Avenue and West Campus Loop (WLC Architects, 2009). For the project, gas would be extended from an existing main, and electrical power would be provided from an existing main switchgear, with a new transformer and underground electrical infrastructure to serve the building (Marschak, 2017). As noted in Chapter I, Project Description, service to the new transformer may be provided via existing underground conduits beneath Webster Street. Work in the street may be required in order to use the existing conduits crossing Webster Street to supply power to the new building. The proposed building would connect to the campus gas main either to the north or west of the building, depending on the design size. No other off-site work is anticipated.

No new sources of energy supplies or additional energy infrastructure would be required for the project. Thus, no associated environmental effects would occur.

d) Would the project conflict with applicable energy efficiency policies or standards?

Less Than Significant Impact

The project would not conflict with applicable energy efficiency policies or standards. The project would abide by all State of California mandates for energy conservation, and final designs would be subject to approval by the Division of the State Architect, which reviews community college project designs to determine compliance with the California Building Code. The project would contain energy-saving features as described under Item (a) above.

REFERENCES

Marschak, Merideth, Noll and Tam, 2017. Email re. "Data for COA Initial Study related to utilities and services," March 9.

WLC Architects, Inc., 2009. *College of Alameda Facilities Master Plan*, pages 86 and 89.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX.	MANDATORY FINDINGS OF SIGNIFICANCE.				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	❒	■	❒	❒
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?	❒	■	❒	❒

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

Potentially Significant Unless Mitigation Incorporated

Refer to Section IV, Biological Resources, which includes mitigation measures related to biological resources, specifically nesting birds that may reside at the site at the time of construction; and Section V, Cultural Resources, which includes mitigation measures related to archaeological resources.

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

No other campus projects are currently proposed that would add to potential cumulative impacts on the College of Alameda campus. The City of Alameda was contacted on June 12, 2017, to determine if any new or proposed developments could occur within one-quarter mile of the project site. No significant projects are planned or proposed within this radius (Sablan, 2017). Jean Sweeny Park located at the corner of Constitution Way and Atlantic Avenue to the east of the site is currently under plan check to include improvements such as a bike trail. While up to 70 units of affordable housing may be constructed northwest of the College of Alameda campus on Singleton Avenue, this development has been proposed but no specific plans are yet in place (Sablan, 2017). Thus, no significant cumulative impacts would occur from the proposed project.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Unless Mitigation Incorporated

Refer to Section XII, Noise, which addresses potential noise and vibration impacts and which identifies mitigation measures to reduce such impacts to less than significant.

REFERENCES

Sablan, David, Planner, City of Alameda, 2017. Personal communication with A. Skewes-Cox, June 12, 2017.

APPENDIX A
APPLICANT'S APPROVAL OF MITIGATION MEASURES

Mitigation Measure AIR-1: During project construction, the contractor shall implement a dust control program that includes the following measures recommended by the Bay Area Air Quality Management District (BAAQMD):

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- 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.
- A publicly visible sign shall be posted with the telephone number of the District and the contractor to contact regarding dust complaints. This District or contractor shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.

In addition, an independent construction monitor shall conduct periodic site inspections, but in no event fewer than four total inspections, during the course of construction to ensure these mitigation measures are implemented and shall issue a letter report to the Peralta Community College District documenting the inspection results. Reports indicating non-compliance with construction mitigation measures shall be cause to issue a stop work order until such time as compliance is achieved.

Mitigation Measure AIR-2: Implement Mitigation Measure AIR-1.

Implementation of Mitigation Measure AIR-1 would reduce potentially significant impacts of fugitive dust emissions during project construction to a less-than-significant level.

Mitigation Measure BIOLOGY-1: Any active bird nests in the vicinity of proposed vegetation removal and grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and vegetation removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for active nests. A pre-construction survey report verifying that no active nests are present, or that nesting has been completed as detailed below, shall be submitted to the Peralta Community College District for review and approval prior to initiation of grading or vegetation removal during the nesting season. Provisions of the pre-construction survey and nest avoidance measures, if necessary, shall include the following:

- If initial grubbing and grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 7 days prior to

initiation of grading or vegetation removal to provide confirmation on presence or absence of active nests in the vicinity.

- If active nests are encountered, species-specific measures shall be prepared by a qualified biologist through informal consultation with the California Department of Fish and Wildlife (CDFW) and implemented to prevent nest abandonment. At a minimum, vegetation removal and grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest setback zone of at least 100 feet for raptors and 50 feet for passerine birds shall be established, and all construction-related disturbances shall be prohibited within the nest setback zone. The perimeter of the nest setback zone shall be fenced or adequately demarcated and construction personnel restricted from the area.
- If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest setback zone until a qualified biologist verifies either that a) the birds have not begun egg-laying and incubation, or b) the juveniles from the nest are foraging independently and capable of independent survival at an earlier date.
- A survey report of findings verifying that any young have fledged shall be submitted for review and approval by the District prior to initiation of grading or vegetation removal in the nest setback zone. Following approval by the District, grading, vegetation removal, and construction in the nest setback zone may proceed as proposed.

Implementation of Mitigation Measure BIOLOGY-1 would reduce potentially significant impacts on nesting birds to a less-than-significant level.

Mitigation Measure CULTURAL-1: The Peralta Community College District shall inform its contractor(s) of the sensitivity of the project site for archaeological deposits. The District shall verify that the following directive has been included in the appropriate construction documents:

> "If archaeological deposits are discovered during project activities, all work within 50 feet of the discovery shall be redirected. The District shall contact a qualified archaeologist to assess the situation and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Archaeological materials that may be encountered include historical materials, such as wood, stone, or concrete footings, walls, and other structural remains including dock remnants. Although not anticipated, prehistoric archaeological materials may be mixed within fill underlying the project site. Prehistoric archaeological materials include obsidian or chert flaked-stone tools (e.g., projectile points, knives, choppers) or toolmaking debris; shellfish remains; faunal bones; and stone-milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains."

With implementation of the above mitigation measure, the potential impact on historical and archaeological resources would be reduced to a less-than-significant level.

Mitigation Measure CULTURAL-2: Implement Mitigation Measure CULTURAL-1.

With implementation of the above mitigation measure, the potential impact on archaeological resources would be reduced to a less-than-significant level.

Mitigation Measure HYDROLOGY-1: Consistent with the requirements of the statewide Construction General Permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address stormwater runoff during project construction.

The SWPPP shall be prepared by a Qualified SWPPP Developer in accordance with the requirements of the Construction General Permit and 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.

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, 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 and maintenance activities.

Implementation of the above mitigation measure would ensure that project design is in compliance with the NPDES permit stormwater requirements and reduce potential construction phase water quality and discharge impacts to a less-than-significant level.

Mitigation Measure HYDROLOGY-2: The Peralta Community College District shall fully comply with Provision C.3 of the Municipal Regional Permit. The District shall prepare and implement a Stormwater Control Plan (SCP) for the project. At a minimum, the SCP for the project shall include the following:

1. Low Impact Development (LID) design details incorporated into the project, including optimization of site layout, dispersal of runoff to pervious areas, and stormwater control measures.

2. Measures to address potential stormwater contaminants. These may include measures to cover or control potential sources of stormwater pollutants at the project site.

3. A Stormwater Facility Operation and Maintenance Plan for the project site. The plan shall include provisions for periodic inspection and maintenance of the storm drainage system. Persons responsible for performing and funding the requirements of this plan shall be identified.

Implementation of the above mitigation measure would ensure that the project design is in compliance with the NPDES permit stormwater requirements and reduce potential operational phase water quality and discharge impacts to a less-than-significant level.

Mitigation Measure NOISE-1: The Peralta Community College District shall use the services of an acoustic design consultant, mechanical equipment selection and acoustical shielding, placement of equipment in less-sensitive areas, when feasible, and sound attenuators to ensure that noise levels from the installation of heating, ventilation, and air conditioning (HVAC) systems do not exceed the 50 dBA L_{eq} interior noise standard for school buildings and do not exceed the exterior noise standards of 50 dBA L_{50}/60 dBA L_{25}/65 dBA $L_{8.33}$/70 dBA $L_{1.67}$/75 dBA L_{max} during daytime (7:00 AM to 10:00 PM) and 50 dBA L_{50}/55 dBA L_{25}/60 dBA $L_{8.33}$/65 dBA $L_{1.67}$/70 dBA L_{max} during nighttime (10:00 PM to 7:00 PM) at the nearest school buildings and residences.

Implementation of Mitigation Measure NOISE-1 would reduce the potential impact of the project resulting from the project's potential to generate noise in excess of interior and exterior noise standards to a less-than-significant level.

Mitigation Measure NOISE-2a: The Peralta Community College District shall require the construction contractor to develop a set of procedures for tracking and responding to complaints received pertaining to construction vibration and noise and implement the procedures during construction. At a minimum, the procedures shall include:

1. Designation of an on-site construction complaint and enforcement manager for the project;

2. Protocols specific to on-campus and off-campus receptors for receiving, responding to, and tracking received complaints; and

3. Maintenance of a complaint log that records received complaints and how complaints were addressed.

Mitigation Measure NOISE-2b: Nearby residents, college students, and staff shall be informed by posting informational notices on the fence line of the construction site, nearby buildings, and classrooms. The notice shall state the date of planned construction activity and include the contact information of the construction complaint and enforcement manager identified in Mitigation Measure NOISE-2a.

Mitigation Measure NOISE-2c: To the maximum extent practicable, the construction contractor shall coordinate construction activities (particularly pile driving) so that they do not occur during established testing periods (e.g., finals week).

The combination of the three mitigation measures above would reduce the impact to a less-than-significant level.

Mitigation Measure NOISE-3: Implement Mitigation Measure NOISE-1.

The implementation of this mitigation measure would reduce the potential impact of the project with respect to a potential increase in ambient noise levels in the project vicinity to a less than significant level.

Mitigation Measure NOISE-4a: Implement Mitigation Measure NOISE-2a.

Mitigation Measure NOISE-4b: Implement Mitigation Measure NOISE-2b.

Mitigation Measure NOISE-4c: Implement Mitigation Measure NOISE-2c.

Mitigation Measure NOISE-4d: For all project construction activities, the District shall require the construction contractor to implement noise reduction measures to reduce noise impacts related to construction. Noise reduction measures include, but are not limited to, the following:

1. Equipment and trucks used for project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds), wherever feasible.

2. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall, to the extent feasible, be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available; this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, to the extent feasible, whenever such procedures are available and consistent with required construction procedures.

3. To the extent feasible, stationary noise sources shall be located as far from nearby receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures to provide equivalent noise reduction as feasible.

The combination of the above mitigation measures would reduce the impact to a less-than-significant level.

We agree to implement the above mitigation measures.

Signature

ATHERIA SMITH PERALTA

Printed Name and Organization

9/21/17

Date

APPENDIX B
AIR QUALITY/GREENHOUSE GAS BACKGROUND DATA

College of Alameda New Center for Liberal Arts

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	6,518.00	Student	1.97	53,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	427	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

College of Alameda New Center for Liberal Arts - Alameda County, Annual

Project Characteristics - PG&E's default 2008 CO2 intensity factor updated to the most recent (2013) emission factor verified by a 3rd party in PG&E's (2015) Greenhouse Gas Emission Factors: Guidance for PG&E Customers.

Land Use - Building square footage, and lot acreage (i.e., area of disturbance) are based on information provided by the project sponsor. Student population conservativley based on total campus population.

Construction Phase - According to project sponsor, construction expected to begin in spring 2018 and last up to 17 months.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Drill rig added for pile driving

Trips and VMT - Vendor and haul trips adjusted according to information provided by project sponsor (see assumptions in Initial Study).

Grading - According to project sponsor, 10,000 cubic yard of soil will be imported.

Vehicle Trips - Based on project design, there would be no net increase in traffic.

Energy Use - Using PG&E updated carbon intensity data.

Water And Wastewater - EBMUD would service the proposed project and applies 100 percent aerobic process and 100 percent cogeneration.

Construction Off-road Equipment Mitigation - Mitigation measure AIR-3 to reduce PM emissions from construction.

Fleet Mix -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

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tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
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tblLandUse	LandUseSquareFeet	1,197,991.90	53,000.00
tblLandUse	LotAcreage	27.50	1.97
tblProjectCharacteristics	CO2IntensityFactor	641.35	427
tblProjectCharacteristics	OperationalYear	2018	2020
tblTripsAndVMT	HaulingTripNumber	1,250.00	556.00
tblTripsAndVMT	VendorTripNumber	9.00	18.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1942	1.6280	1.0371	2.2800e-003	0.1302	0.0791	0.2093	0.0611	0.0755	0.1365	0.0000	200.7138	200.7138	0.0360	0.0000	201.6144
2019	0.4494	1.3170	1.0810	2.0800e-003	0.0206	0.0682	0.0888	5.6500e-003	0.0658	0.0714	0.0000	178.6609	178.6609	0.0292	0.0000	179.3899
Maximum	**0.4494**	**1.6280**	**1.0810**	**2.2800e-003**	**0.1302**	**0.0791**	**0.2093**	**0.0611**	**0.0755**	**0.1365**	**0.0000**	**200.7138**	**200.7138**	**0.0360**	**0.0000**	**201.6144**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0720	1.5652	1.0828	2.2800e-003	0.1302	8.8300e-003	0.1390	0.0611	8.7600e-003	0.0698	0.0000	200.7136	200.7136	0.0360	0.0000	201.6142
2019	0.3500	1.4413	1.0898	2.0800e-003	0.0206	9.0600e-003	0.0296	5.6500e-003	9.0100e-003	0.0147	0.0000	178.6608	178.6608	0.0292	0.0000	179.3898
Maximum	**0.3500**	**1.5652**	**1.0898**	**2.2800e-003**	**0.1302**	**9.0600e-003**	**0.1390**	**0.0611**	**9.0100e-003**	**0.0698**	**0.0000**	**200.7136**	**200.7136**	**0.0360**	**0.0000**	**201.6142**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**34.42**	**-2.09**	**-2.57**	**0.00**	**0.00**	**87.85**	**43.42**	**0.00**	**87.42**	**59.37**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-30-2018	7-29-2018	0.5040	0.3777
2	7-30-2018	10-29-2018	0.7452	0.6844
3	10-30-2018	1-29-2019	0.7266	0.6840
4	1-30-2019	4-29-2019	0.6680	0.6653
5	4-30-2019	7-29-2019	0.5617	0.5824
6	7-30-2019	9-30-2019	0.3088	0.3166
		Highest	0.7452	0.6844

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2403	5.6000e-004	0.0603	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.1165	0.1165	3.1000e-004	0.0000	0.1243
Energy	9.8200e-003	0.0893	0.0750	5.4000e-004		6.7900e-003	6.7900e-003		6.7900e-003	6.7900e-003	0.0000	204.9932	204.9932	9.1800e-003	3.3000e-003	206.2052
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	241.4659	0.0000	241.4659	14.2702	0.0000	598.2215
Water						0.0000	0.0000		0.0000	0.0000	4.9375	28.0607	32.9983	0.0189	0.0111	36.7881
Total	**0.2501**	**0.0899**	**0.1353**	**5.4000e-004**	**0.0000**	**7.0100e-003**	**7.0100e-003**	**0.0000**	**7.0100e-003**	**7.0100e-003**	**246.4034**	**233.1704**	**479.5738**	**14.2986**	**0.0144**	**841.3390**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2403	5.6000e-004	0.0603	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.1165	0.1165	3.1000e-004	0.0000	0.1243
Energy	9.8200e-003	0.0893	0.0750	5.4000e-004		6.7900e-003	6.7900e-003		6.7900e-003	6.7900e-003	0.0000	204.9932	204.9932	9.1800e-003	3.3000e-003	206.2052
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	241.4659	0.0000	241.4659	14.2702	0.0000	598.2215
Water						0.0000	0.0000		0.0000	0.0000	4.9375	28.0607	32.9983	0.0189	0.0111	36.7881
Total	**0.2501**	**0.0899**	**0.1353**	**5.4000e-004**	**0.0000**	**7.0100e-003**	**7.0100e-003**	**0.0000**	**7.0100e-003**	**7.0100e-003**	**246.4034**	**233.1704**	**479.5738**	**14.2986**	**0.0144**	**841.3390**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

College of Alameda New Center for Liberal Arts - Alameda County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/30/2018	5/25/2018	5	20	
2	Grading	Grading	5/26/2018	6/22/2018	5	20	
3	Pile Driving	Trenching	6/23/2018	7/27/2018	5	25	
4	Building Construction	Building Construction	7/28/2018	6/28/2019	5	240	
5	Paving	Paving	6/29/2019	7/26/2019	5	20	
6	Architectural Coating	Architectural Coating	7/27/2019	9/27/2019	5	45	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 7.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 79,500; Non-Residential Outdoor: 26,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

College of Alameda New Center for Liberal Arts - Alameda County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation		0		0	
Site Preparation		0		0	
Site Preparation		0		0	
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pile Driving	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	556.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	22.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Clean Paved Roads

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0580	0.0000	0.0580	0.0295	0.0000	0.0295	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.2075	0.0808	1.7000e-004		9.5200e-003	9.5200e-003		8.7600e-003	8.7600e-003	0.0000	15.7430	15.7430	4.9000e-003	0.0000	15.8655
Total	**0.0181**	**0.2075**	**0.0808**	**1.7000e-004**	**0.0580**	**9.5200e-003**	**0.0675**	**0.0295**	**8.7600e-003**	**0.0383**	**0.0000**	**15.7430**	**15.7430**	**4.9000e-003**	**0.0000**	**15.8655**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5977	0.5977	2.0000e-005	0.0000	0.5982
Total	**3.4000e-004**	**2.6000e-004**	**2.6300e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5977**	**0.5977**	**2.0000e-005**	**0.0000**	**0.5982**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0580	0.0000	0.0580	0.0295	0.0000	0.0295	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9100e-003	0.1495	0.0982	1.7000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	15.7429	15.7429	4.9000e-003	0.0000	15.8655
Total	**4.9100e-003**	**0.1495**	**0.0982**	**1.7000e-004**	**0.0580**	**5.6000e-004**	**0.0586**	**0.0295**	**5.6000e-004**	**0.0301**	**0.0000**	**15.7429**	**15.7429**	**4.9000e-003**	**0.0000**	**15.8655**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5977	0.5977	2.0000e-005	0.0000	0.5982
Total	**3.4000e-004**	**2.6000e-004**	**2.6300e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5977**	**0.5977**	**2.0000e-005**	**0.0000**	**0.5982**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0497	0.0000	0.0497	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1707	0.0676	1.4000e-004		7.9500e-003	7.9500e-003		7.3100e-003	7.3100e-003	0.0000	12.8935	12.8935	4.0100e-003	0.0000	12.9938
Total	**0.0150**	**0.1707**	**0.0676**	**1.4000e-004**	**0.0497**	**7.9500e-003**	**0.0577**	**0.0253**	**7.3100e-003**	**0.0327**	**0.0000**	**12.8935**	**12.8935**	**4.0100e-003**	**0.0000**	**12.9938**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6500e-003	0.0909	0.0151	2.3000e-004	4.7100e-003	3.4000e-004	5.0500e-003	1.3000e-003	3.3000e-004	1.6200e-003	0.0000	21.7270	21.7270	1.1500e-003	0.0000	21.7557
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5977	0.5977	2.0000e-005	0.0000	0.5982
Total	**2.9900e-003**	**0.0911**	**0.0177**	**2.4000e-004**	**5.3400e-003**	**3.4000e-004**	**5.6900e-003**	**1.4700e-003**	**3.3000e-004**	**1.7900e-003**	**0.0000**	**22.3247**	**22.3247**	**1.1700e-003**	**0.0000**	**22.3538**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0497	0.0000	0.0497	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0600e-003	0.1226	0.0808	1.4000e-004		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	12.8934	12.8934	4.0100e-003	0.0000	12.9938
Total	**4.0600e-003**	**0.1226**	**0.0808**	**1.4000e-004**	**0.0497**	**4.7000e-004**	**0.0502**	**0.0253**	**4.7000e-004**	**0.0258**	**0.0000**	**12.8934**	**12.8934**	**4.0100e-003**	**0.0000**	**12.9938**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6500e-003	0.0909	0.0151	2.3000e-004	4.7100e-003	3.4000e-004	5.0500e-003	1.3000e-003	3.3000e-004	1.6200e-003	0.0000	21.7270	21.7270	1.1500e-003	0.0000	21.7557
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5977	0.5977	2.0000e-005	0.0000	0.5982
Total	**2.9900e-003**	**0.0911**	**0.0177**	**2.4000e-004**	**5.3400e-003**	**3.4000e-004**	**5.6900e-003**	**1.4700e-003**	**3.3000e-004**	**1.7900e-003**	**0.0000**	**22.3247**	**22.3247**	**1.1700e-003**	**0.0000**	**22.3538**

3.4 Pile Driving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7700e-003	0.0525	0.0262	1.2000e-004		1.4800e-003	1.4800e-003		1.3600e-003	1.3600e-003	0.0000	10.7088	10.7088	3.3300e-003	0.0000	10.7921
Total	**3.7700e-003**	**0.0525**	**0.0262**	**1.2000e-004**		**1.4800e-003**	**1.4800e-003**		**1.3600e-003**	**1.3600e-003**	**0.0000**	**10.7088**	**10.7088**	**3.3300e-003**	**0.0000**	**10.7921**

3.4 Pile Driving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.2300e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2802	0.2802	1.0000e-005	0.0000	0.2804
Total	**1.6000e-004**	**1.2000e-004**	**1.2300e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2802**	**0.2802**	**1.0000e-005**	**0.0000**	**0.2804**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9200e-003	0.1011	0.0633	1.2000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	10.7088	10.7088	3.3300e-003	0.0000	10.7921
Total	**2.9200e-003**	**0.1011**	**0.0633**	**1.2000e-004**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**10.7088**	**10.7088**	**3.3300e-003**	**0.0000**	**10.7921**

3.4 Pile Driving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.2300e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2802	0.2802	1.0000e-005	0.0000	0.2804
Total	**1.6000e-004**	**1.2000e-004**	**1.2300e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2802**	**0.2802**	**1.0000e-005**	**0.0000**	**0.2804**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1439	0.9673	0.7702	1.2200e-003		0.0587	0.0587		0.0567	0.0567	0.0000	102.2502	102.2502	0.0206	0.0000	102.7648
Total	**0.1439**	**0.9673**	**0.7702**	**1.2200e-003**		**0.0587**	**0.0587**		**0.0567**	**0.0567**	**0.0000**	**102.2502**	**102.2502**	**0.0206**	**0.0000**	**102.7648**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9600e-003	0.1347	0.0308	2.8000e-004	6.5600e-003	9.6000e-004	7.5200e-003	1.9000e-003	9.2000e-004	2.8200e-003	0.0000	26.7932	26.7932	1.7100e-003	0.0000	26.8361
Worker	5.1200e-003	4.0200e-003	0.0401	1.0000e-004	9.6500e-003	7.0000e-005	9.7200e-003	2.5700e-003	6.0000e-005	2.6300e-003	0.0000	9.1226	9.1226	2.9000e-004	0.0000	9.1297
Total	**0.0101**	**0.1387**	**0.0709**	**3.8000e-004**	**0.0162**	**1.0300e-003**	**0.0172**	**4.4700e-003**	**9.8000e-004**	**5.4500e-003**	**0.0000**	**35.9158**	**35.9158**	**2.0000e-003**	**0.0000**	**35.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0466	0.9618	0.7481	1.2200e-003		6.0900e-003	6.0900e-003		6.0900e-003	6.0900e-003	0.0000	102.2501	102.2501	0.0206	0.0000	102.7647
Total	**0.0466**	**0.9618**	**0.7481**	**1.2200e-003**		**6.0900e-003**	**6.0900e-003**		**6.0900e-003**	**6.0900e-003**	**0.0000**	**102.2501**	**102.2501**	**0.0206**	**0.0000**	**102.7647**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9600e-003	0.1347	0.0308	2.8000e-004	6.5600e-003	9.6000e-004	7.5200e-003	1.9000e-003	9.2000e-004	2.8200e-003	0.0000	26.7932	26.7932	1.7100e-003	0.0000	26.8361
Worker	5.1200e-003	4.0200e-003	0.0401	1.0000e-004	9.6500e-003	7.0000e-005	9.7200e-003	2.5700e-003	6.0000e-005	2.6300e-003	0.0000	9.1226	9.1226	2.9000e-004	0.0000	9.1297
Total	**0.0101**	**0.1387**	**0.0709**	**3.8000e-004**	**0.0162**	**1.0300e-003**	**0.0172**	**4.4700e-003**	**9.8000e-004**	**5.4500e-003**	**0.0000**	**35.9158**	**35.9158**	**2.0000e-003**	**0.0000**	**35.9658**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1466	1.0307	0.8699	1.4200e-003		0.0591	0.0591		0.0571	0.0571	0.0000	118.0814	118.0814	0.0227	0.0000	118.6489
Total	**0.1466**	**1.0307**	**0.8699**	**1.4200e-003**		**0.0591**	**0.0591**		**0.0571**	**0.0571**	**0.0000**	**118.0814**	**118.0814**	**0.0227**	**0.0000**	**118.6489**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.2300e-003	0.1485	0.0328	3.2000e-004	7.6200e-003	9.5000e-004	8.5700e-003	2.2100e-003	9.1000e-004	3.1100e-003	0.0000	30.9261	30.9261	1.9100e-003	0.0000	30.9738
Worker	5.3700e-003	4.1000e-003	0.0414	1.1000e-004	0.0112	8.0000e-005	0.0113	2.9800e-003	7.0000e-005	3.0600e-003	0.0000	10.2919	10.2919	2.9000e-004	0.0000	10.2992
Total	**0.0106**	**0.1526**	**0.0742**	**4.3000e-004**	**0.0188**	**1.0300e-003**	**0.0199**	**5.1900e-003**	**9.8000e-004**	**6.1700e-003**	**0.0000**	**41.2180**	**41.2180**	**2.2000e-003**	**0.0000**	**41.2730**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0541	1.1177	0.8694	1.4200e-003		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	118.0812	118.0812	0.0227	0.0000	118.6487
Total	**0.0541**	**1.1177**	**0.8694**	**1.4200e-003**		**7.0800e-003**	**7.0800e-003**		**7.0800e-003**	**7.0800e-003**	**0.0000**	**118.0812**	**118.0812**	**0.0227**	**0.0000**	**118.6487**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.2300e-003	0.1485	0.0328	3.2000e-004	7.6200e-003	9.5000e-004	8.5700e-003	2.2100e-003	9.1000e-004	3.1100e-003	0.0000	30.9261	30.9261	1.9100e-003	0.0000	30.9738
Worker	5.3700e-003	4.1000e-003	0.0414	1.1000e-004	0.0112	8.0000e-005	0.0113	2.9800e-003	7.0000e-005	3.0600e-003	0.0000	10.2919	10.2919	2.9000e-004	0.0000	10.2992
Total	**0.0106**	**0.1526**	**0.0742**	**4.3000e-004**	**0.0188**	**1.0300e-003**	**0.0199**	**5.1900e-003**	**9.8000e-004**	**6.1700e-003**	**0.0000**	**41.2180**	**41.2180**	**2.2000e-003**	**0.0000**	**41.2730**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.0400e-003	0.0917	0.0890	1.4000e-004		5.2200e-003	5.2200e-003		4.8200e-003	4.8200e-003	0.0000	12.0211	12.0211	3.7300e-003	0.0000	12.1143
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.0400e-003**	**0.0917**	**0.0890**	**1.4000e-004**		**5.2200e-003**	**5.2200e-003**		**4.8200e-003**	**4.8200e-003**	**0.0000**	**12.0211**	**12.0211**	**3.7300e-003**	**0.0000**	**12.1143**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.8000e-004	3.7900e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9429	0.9429	3.0000e-005	0.0000	0.9436
Total	**4.9000e-004**	**3.8000e-004**	**3.7900e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9429**	**0.9429**	**3.0000e-005**	**0.0000**	**0.9436**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5000e-003	0.1174	0.0985	1.4000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	12.0211	12.0211	3.7300e-003	0.0000	12.1143
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5000e-003**	**0.1174**	**0.0985**	**1.4000e-004**		**6.2000e-004**	**6.2000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**12.0211**	**12.0211**	**3.7300e-003**	**0.0000**	**12.1143**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.8000e-004	3.7900e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9429	0.9429	3.0000e-005	0.0000	0.9436
Total	**4.9000e-004**	**3.8000e-004**	**3.7900e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9429**	**0.9429**	**3.0000e-005**	**0.0000**	**0.9436**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2764					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9900e-003	0.0413	0.0414	7.0000e-005		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	5.7448	5.7448	4.9000e-004	0.0000	5.7570
Total	**0.2824**	**0.0413**	**0.0414**	**7.0000e-005**		**2.9000e-003**	**2.9000e-003**		**2.9000e-003**	**2.9000e-003**	**0.0000**	**5.7448**	**5.7448**	**4.9000e-004**	**0.0000**	**5.7570**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6200e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6528	0.6528	2.0000e-005	0.0000	0.6532
Total	**3.4000e-004**	**2.6000e-004**	**2.6200e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6528**	**0.6528**	**2.0000e-005**	**0.0000**	**0.6532**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2764					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5600e-003	0.0529	0.0412	7.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	5.7448	5.7448	4.9000e-004	0.0000	5.7569
Total	**0.2789**	**0.0529**	**0.0412**	**7.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**5.7448**	**5.7448**	**4.9000e-004**	**0.0000**	**5.7569**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.6000e-004	2.6200e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6528	0.6528	2.0000e-005	0.0000	0.6532
Total	**3.4000e-004**	**2.6000e-004**	**2.6200e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6528**	**0.6528**	**2.0000e-005**	**0.0000**	**0.6532**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.558186	0.040947	0.190770	0.110456	0.017401	0.005228	0.022658	0.042795	0.002118	0.002805	0.005569	0.000308	0.000759

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	107.7851	107.7851	7.3200e-003	1.5100e-003	108.4195
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	107.7851	107.7851	7.3200e-003	1.5100e-003	108.4195
NaturalGas Mitigated	9.8200e-003	0.0893	0.0750	5.4000e-004		6.7900e-003	6.7900e-003		6.7900e-003	6.7900e-003	0.0000	97.2081	97.2081	1.8600e-003	1.7800e-003	97.7857
NaturalGas Unmitigated	9.8200e-003	0.0893	0.0750	5.4000e-004		6.7900e-003	6.7900e-003		6.7900e-003	6.7900e-003	0.0000	97.2081	97.2081	1.8600e-003	1.7800e-003	97.7857

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
University/College (4Yr)	1.82161e+006	9.8200e-003	0.0893	0.0750	5.4000e-004		6.7900e-003	6.7900e-003		6.7900e-003	6.7900e-003	0.0000	97.2081	97.2081	1.8600e-003	1.7800e-003	97.7857
Total		**9.8200e-003**	**0.0893**	**0.0750**	**5.4000e-004**		**6.7900e-003**	**6.7900e-003**		**6.7900e-003**	**6.7900e-003**	**0.0000**	**97.2081**	**97.2081**	**1.8600e-003**	**1.7800e-003**	**97.7857**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
University/College (4Yr)	1.82161e+006	9.8200e-003	0.0893	0.0750	5.4000e-004		6.7900e-003	6.7900e-003		6.7900e-003	6.7900e-003	0.0000	97.2081	97.2081	1.8600e-003	1.7800e-003	97.7857
Total		**9.8200e-003**	**0.0893**	**0.0750**	**5.4000e-004**		**6.7900e-003**	**6.7900e-003**		**6.7900e-003**	**6.7900e-003**	**0.0000**	**97.2081**	**97.2081**	**1.8600e-003**	**1.7800e-003**	**97.7857**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
University/College (4Yr)	556500	107.7851	7.3200e-003	1.5100e-003	108.4195
Total		**107.7851**	**7.3200e-003**	**1.5100e-003**	**108.4195**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
University/College (4Yr)	556500	107.7851	7.3200e-003	1.5100e-003	108.4195
Total		**107.7851**	**7.3200e-003**	**1.5100e-003**	**108.4195**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2403	5.6000e-004	0.0603	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.1165	0.1165	3.1000e-004	0.0000	0.1243
Unmitigated	0.2403	5.6000e-004	0.0603	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.1165	0.1165	3.1000e-004	0.0000	0.1243

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0276					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2070					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.6700e-003	5.6000e-004	0.0603	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.1165	0.1165	3.1000e-004	0.0000	0.1243
Total	**0.2403**	**5.6000e-004**	**0.0603**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.1165**	**0.1165**	**3.1000e-004**	**0.0000**	**0.1243**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0276					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2070					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.6700e-003	5.6000e-004	0.0603	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.1165	0.1165	3.1000e-004	0.0000	0.1243
Total	**0.2403**	**5.6000e-004**	**0.0603**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.1165**	**0.1165**	**3.1000e-004**	**0.0000**	**0.1243**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	32.9983	0.0189	0.0111	36.7881
Unmitigated	32.9983	0.0189	0.0111	36.7881

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
University/College (4Yr)	13.9557 / 21.8281	32.9983	0.0189	0.0111	36.7881
Total		**32.9983**	**0.0189**	**0.0111**	**36.7881**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
University/College (4Yr)	13.9557 / 21.8281	32.9983	0.0189	0.0111	36.7881
Total		**32.9983**	**0.0189**	**0.0111**	**36.7881**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	241.4659	14.2702	0.0000	598.2215
Unmitigated	241.4659	14.2702	0.0000	598.2215

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
University/College (4Yr)	1189.54	241.4659	14.2702	0.0000	598.2215
Total		**241.4659**	**14.2702**	**0.0000**	**598.2215**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
University/College (4Yr)	1189.54	241.4659	14.2702	0.0000	598.2215
Total		**241.4659**	**14.2702**	**0.0000**	**598.2215**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Summary of ISCST3 Model Parameters, Assumptions, and Results for DPM and $PM_{2.5}$ Emissions during Construction

ISCST3 Model Parameters and Assumptions			
Source Type	**Units**	**Value**	**Notes**
Volume Source: Off-Road Equipment Exhaust (unmitigated)			
Hours/Work Day	hours/day	8	Information from project sponsor
DPM Emission Rate	gram/second	0.01234	Exhaust PM_{10} from off-road equipment
Number of Sources	count	46	SMAQMD, 2015
Emission Rate/Source	gram/second	0.00027	
Release Height	meters	5.0	SMAQMD, 2015
Length of Side	meters	10.0	SMAQMD, 2015
Initial Lateral Dimension	meters	2.3	ISCST3 Calculator
Initial Vertical Dimension	meters	1.0	SMAQMD, 2015
Volume Source: Off-Road Equipment Exhaust (mitigated)			
Hours/Work Day	hours/day	8	Information from project sponsor
DPM Emission Rate	gram/second	0.00132	Exhaust PM_{10} from off-road equipment
Number of Sources	count	46	SMAQMD, 2015
Emission Rate/Source	gram/second	0.000029	
Release Height	meters	5.0	SMAQMD, 2015
Length of Side	meters	10.0	SMAQMD, 2015
Initial Lateral Dimension	meters	2.3	ISCST3 Calculator
Initial Vertical Dimension	meters	1.0	SMAQMD, 2015
Line-Area Source: On-Road Vehicle Exhaust			
Hours/Work Day	hours/day	8	
DPM Emission Rate	gram/second	0.000011	Exhaust PM_{10} from on-road vehicles
Number of Sources	count	6	Based on maximum 1 width:10 length ratio
Length of Side	meters	9.0	ISCST3 Calculator
Release Height	meters	3.0	BAAQMD, 2012
Initial Vertical Dimension	meters	2.8	ISCST3 Calculator

ISCST3 Model Results			
Emissions Source	**Pollutant**	**Annual Average Concentration**	**Notes**
Unmitigated - Construction	DPM ($\mu g/m^{3)}$	0.20	MEIR
	$PM_{2.5}$ ($\mu g/m^{3)}$	0.19	MEIR
Mitigated - Construction	DPM (µg/m3)	0.02	MEIR
	PM2.5 (µg/m3)	0.02	MEIR

Notes:

DPM = diesel particulate matter

PM_{10} = particulate matter with aerodynamic resistance diameters equal to or less than 10 microns

$PM_{2.5}$ = particulate matter with aerodynamic resistance diameters equal to or less than 2.5 microns

$\mu g/m^3$ = micrograms per cubic meter

Sacramento Metropolitan Air Quality Management District (SMAQMD), 2015. *Guide to Air Quality Assessment in Sacramento County* . June.

Summary of Health Risk Assessment for DPM Emissions during Construction

Health Risk Assessment Parameters and Results				
DPM Emissions at nearest residential receptor				
Inhalation Cancer Risk Assessment for DPM	**Units**	**Age Group (0-2 Years)**		**Notes**
		Unmitigated	**Mitigated**	
DPM Concentration (C)	$\mu g/m^3$	0.199	0.021	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-day	1090	1090	95th percentile under age of 2 (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF_D)	$mg\text{-}m^3/\mu g\text{-}L$	0.000001	0.000001	Conversion of µg to mg and L to m^3
Dose	mg/kg/day	0.000208	0.000022	$C*DBR*A*EF*CF_D$ (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(mg/kg/day)^{-1}$	1.1	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	1.42	1.42	Based on total construction period of 17 months
Averaging Time (AT)	years	70	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	0.85	0.85	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	1000000	Chances per million (OEHHA, 2015)
Cancer Risk at MEIR location	per million	39.4	4.2	D*CPF*ASF*ED/AT*FAH*CF (OEHHA, 2015)
Hazard Index for DPM	**Units**	**Value**		**Notes**
Chronic REL	$\mu g/m^3$	5.0	5	OEHHA, 2015
Chronic Hazard Index for DPM	unitless	0.04	0.00	At MEIR location

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu g/m^3$ = micrograms per cubic meter

L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

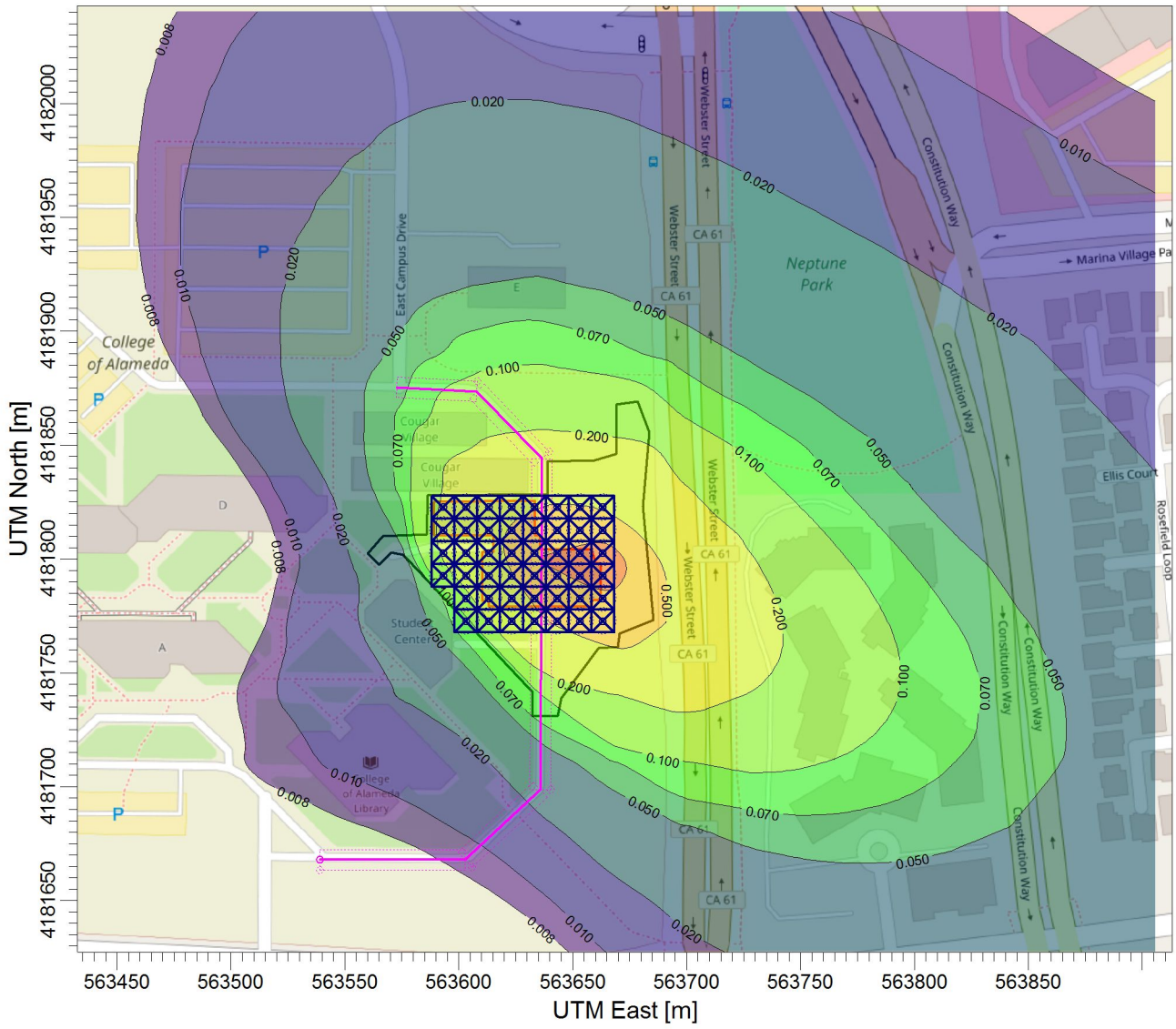
$(mg/kg/day)^{-1}$ = 1/milligrams per kilograms per day

MEIR = maximum exposed individual resident

Office of Environmental Health Hazard Assessment (OEHHA), 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February.*

PROJECT TITLE:

College of Alameda Project
Construction DPM Concentrations (Unmitigated)



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL ug/m^3

Max: 0.786 [ug/m^3] at (563665.81, 4181800.25)

0.008 0.010 0.020 0.050 0.070 0.100 0.200 0.500 0.700 0.786

COMMENTS:	SOURCES: **47**	COMPANY NAME: **BASELINE Environmental Consulting**	
	RECEPTORS: **524**	MODELER:	
	OUTPUT TYPE: **Concentration**	SCALE: 1:3,023 (0 — 0.1 km)	
	MAX: **0.786 ug/m^3**	DATE: **5/31/2017**	PROJECT NO.: